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(RESEARCH ARTICLE)



# Mental health well -being of Frontline Health Care Professionals (FHCP) managing Covid-19 cases in two selected tertiary hospitals in Bayelsa and Edo States, Nigeria

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#### **Abstract**

This study investigated the mental health well-being of frontline health care professionals managing COVID-19 cases in two selected tertiary hospitals in Bayelsa and Edo States. The descriptive analytical survey design was adopted. The population of this study comprises of all health care professionals managing COVID -19 cases in Bayelsa and Edo States. The purposive sampling technique was utilized to sample 181 respondents made up of 39 from Niger Delta University Teaching Hospital (NDUTH) Okolobiri, Bayelsa and 142 from Irrua Specialist Hospital, Edo State. The instrument for data collection is a questionnaire titled "Warwick-Edinburgh Mental Well-being Scale (WEMWBS) and New Well-being Measure Tools adapted by the researchers". The responses were structured into Likert four-point scale of Every time (ET), Often (O), Rarely (R) and Never (N). The instrument was validated by the researchers and other experts. The reliability of the instrument was ascertained using the Cronbach alpha statistic to obtain a reliability coefficient of 0.87. One research question was raised and three hypotheses formulated to guide the direction of this study. The ethical clearance was obtained from relevant authorities. The data collected were analyzed using descriptive statistics of mean, standard deviation, bar chart and inferential statistics of t-test, and One-way analysis of variance. The study found among others that participants in Bayelsa and Edo States have a negative mental health well-being in managing COVID 19 cases. It was concluded amongst others the need for training and re-training of health care professionals, incentives and allowances be given to health care professionals, etc.

Keywords: Mental Health Well-being; Frontline Health Care Professionals; Tertiary Hospitals; COVID-19

#### 1. Introduction

The world is in the scourge of Corona virus (COVID-19) Pandemic. This COVID-19 outbreak is a public health emergency of international concern that involves both the current and anticipated consequences. These consequences could impact on the health workers' mental health and well-being. The frontline health care professionals (FHCP) are providers of care to patients on admission for COVID-19; to ensure health is restored and the virus is contained. This study examined the Mental Health Well-being of FHCP managing COVID-19 Cases in the two Tertiary Hospitals of Bayelsa and Edo States, Southern Nigeria. One corresponding research question was raised and three hypotheses formulated to ascertain the differences that exist between the variables. These differences when identified will provide baseline information on the topic. The study addressed the following hypotheses: H<sub>1</sub>: There is no significant difference in mental health disorder that could affect the mental health of FHCP managing COVID-19 Cases based on age in the two Tertiary Hospitals of Bayelsa and Edo States; H<sub>2</sub>: There is no significant difference in the factors responsible for mental disorders associated with FHCP managing COVID-19 cases based on gender in two tertiary hospitals in Bayelsa and Edo States; H<sub>3</sub>: There is

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no significant difference in the mental health coping strategies for FHCP managing COVID-19 cases based on marital status in two tertiary hospitals Bayelsa and Edo States.

At the time of this study over 218 countries of the world were affected including Nigeria; as of 23rd November 2020 the global prevalence of COVID 19 reported cases was over 54 million out of which 1.4 million deaths occurs worldwide, in Africa the reported cases were over 1.2 million, where as in Nigeria total cases of 66 thousand occurred with over 1 thousand deaths in the country [1, 2, 3]. Moreover, in the study areas; Bayelsa and Edo the prevalence as of 23rd November 2020 reported cases were 445 & 2,694 respectively. This has attributed to 21 deaths in Bayelsa and 111 deaths in Edo within this period [2, 1]. The upsurge in the incidence of COVID-19, the critical conditions, deaths, unpreparedness, emergencies etc., could possibly impact on the mental well-being of the healthcare professionals at the frontline managing COVID-19. These could be as result of associated stress of workload available at the isolation centers. Evidences revealed that the frontline healthcare professionals might be exposed to various mental disorders including; anxiety, depression, fear, panic attack, burnout, grief etc., and these could influence on their mental well-being, thereby affecting healthcare delivery to the patients [4, 4, 6].

The current global health crises have some features that exposes the healthcare professionals working at different isolation centers of the country, as they faced huge burden on their total well-being including; physical, emotional and Psychosocial health. The issue of occupational hazard associated with or experienced by healthcare workers has been a challenge among these working population in the time past. This is due to the type of enormous hazardous procedures involved in this environment that could jeopardize the workers' health. The Frontline Health Care Professionals (FHCP) managing COVID-19 cases in Nigeria are not left out, especially this time of the outbreak that could require more efforts, skills and attention. Several evidences from the literature revealed that FHCP are exposed to both physical, biological, chemical, ergonomics and mental hazards given to the huge number of patients, workload, shortage of staffs, demand of work etc. [4,5,6].

Although, little or no attention is given to this aspect of mental well-being this period, since optimum mental health well-being would ensure utmost productivity in terms of service delivery, quality care and positive care outcome of patients. Hence, this could pose greater health implications on the health care workers' mental well-being, which would also affect the care rendered to their patients. Study carried out by United Nation Development Programme [UNDP] [7] shows that the pandemic is capable of causing devastating psycho-social, economic, political crisis etc.

In addition, studies from World Health Organization and Loiwal [4,5] shows that the health care professionals at the frontline tackling the COVID-19 pandemic are exposed to mental disorders like anger, depression, grief, burnout. However, despite what outcome anticipated being the aftermaths, it's necessary to note that COVID-19 could negatively impact on both mental and psychosocial well-being of the FHCP managing COVID-19 cases. Therefore, based on the above facts the need to investigate on the mental health well-being of FHCP so as to provide relevant answers and coping strategies to assist them cope with the associated burden of COVID-19 while caring for their patients.

## 1.1. Mental Health Well-being

The concept of mental health well-being as defined by the world health organization [W.H.O] [8] "is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stressors of life, can work productively and fruitfully and its able to make a contribution to his or her community. Well-being is a state of being or feeling comfortable, happy and healthy or feeling well. There are some characteristics that can properly define well-being. These includes the following; having a quality mental health, optimum life and ability to manage or cope with stress that interferes with daily activities. Therefore, mental health wellbeing could be defined as a state of comfort where an individual identifies their potential on how to cope and work maximally under stressful condition of life, so as to positively impact their society. In addition the concept of mental well-being as addressed by Galderisi, *et al* [9] " is a dynamic state of internal equilibrium which enables individuals to use their abilities in harmony with universal values of the society, basic cognitive and social skills, ability to recognize, express and modulate one's own emotion, as well as empathize with others, flexibility and ability to cope with adverse life events and function in social roles; and harmonious relationship between body and mind represents important components of mental health which contributes to varying degrees to the state of internal equilibrium. This implies that a mentally healthy individual can equally experience normal human emotions like; fear anger sadness worry anxiety grief etc. Also, at the same time having enough strength to recover to the dynamic state of internal equilibrium.

Thus, is likely that when an individual or a health care worker have no resilience to recover from the dynamic state of equilibrium, then problem can set in and expose the person to unhealthy mental health or mental disorder. It is quite indicative that with the alarming increase in the number of new cases and mortality daily also attributed to the cause of

mental disorders found among health care professionals managing the pandemic in various isolation centers [10]. Vinkers *et al* [11] posit that the health care workers are more susceptible and exposed to stress that could affect their mental health well-being. Furthermore, evidence has shown that mental health well-being of an individual is centered on three distinctive mechanisms of which include the following; first, emotional well-being; this has to do with happiness, interest in life and satisfaction. Secondly, psychological well-being which involves liking most part of one's own personality, being good at managing the responsibilities of daily lives and being satisfied with one's life. Finally, in this category is the social well-being; which has to do with positive functioning and it involves one's contribution to the society; i.e. social integration, social actualization and social coherence [11, 12]. Therefore, it is clear to note that one's mental health could be affected by what happens in their environment. For instance, events, disasters and crises due to an outbreak, work environment or condition (stressors) as in the case of health care workers facing tremendous stress at the frontline of this disease outbreak.

Furthermore, studies have recognized that health care professionals are exposed to health challenges like anxiety, fears, and this is due to shortage of staffs, lack of PPE and family challenges, burnout, and excessive workload owing to the increasing number of patients in their care [13,14,15]. Also, studies conducted in China revealed that health care professionals managing COVID-19 cases are at a higher risk of stress that exposed their mental health to mental disorders like anxiety, depression, sleep disturbances etc., [15,16]. Hence, the health care professionals' managing COVID-19 pandemic are not left out in this case, as enormous unprecedented events and the impacts on the general well-being of the population which has great health consequences that could impose detrimental effects on their mental health well-being.

#### 1.2. Mental Health Disorders and COVID-19

Mental health disorders are ranges of conditions that influences on individual's mood, thinking and behavior. According to Frich and Frich [17] there are behaviors or psychological syndrome or patterns associated with distress or disability or increased risks of suffering, death, pain or loss of freedom. The emotional, psychological and social aspect of an individual well-being could be affected which could result to changes in their behavior. Also, mental health disorders are characterized by addition of abnormal thoughts, emotions, behavior and relationship with others; which includes a range of conditions with various symptoms [18]. These symptoms may include the following; depression, anxiety, mood swing, burnout, fear etc., [18].

Generally, COVID-19 pandemic has a devastating effect on the FHCP's mental health, though not just on their mental health. This is due to the current measures in place for containing the virus including social distancing, isolation and others. The FHCP are separated from their families and loved ones to face these crises; thereby experiencing the followings: boredom; loneliness and burnout; anxiety; fear; depression; panic attack; sleep disturbances and distress. A study by Pappa *et al* [19] revealed that huge proportion of frontline health care professional's mental health well-being are jeopardized by COVID-19 pandemic.

Similar evidence from virus outbreak revealed that frontline health care professionals reported challenges like; stigmatization, isolation, suffering, loneliness and sadness [20]. The W.H.O has also made efforts to contain the spread of the virus through measures like; identification, testing infected persons, and also on the verge of developing drugs and vaccines for treatment. Meanwhile, to achieve the W.H.O goal of containing the spread of the virus, the health care professionals are needed at the frontline to help manage, control and mitigate the effects of the disease, so as to contain the virus from spreading. Although, the main focus is on preventing the transmission of the virus, containing the infection and saving lives, little or no attention is placed on the mental health of these health care professionals managing infected persons at the various isolation centers or hospitals. The evidences so far have shown that almost every aspect of the FHCP well-being is jeopardized during this period and this is likely to impact on the workers' health afterwards. However, it is clear that COVID-19 pandemic could cause a rapid widespread of fear, anxiety, depression, loneliness, panic attack, sadness etc.

#### 1.3. Factors of Mental Health Disorders

Nevertheless, there are some responsible factors of psychosocial stress among the FHCP which includes but not limited to; work condition and environment; workplace discrimination or stigmatization; management issues; lack of motivation and institutional/governmental policies. A study on COVID-19 parameters/stress at the workplace on different working population reveals that occupational stress across all sectors of the workforce are caused by factors such as: workload, role conflict, role ambiguity, lack of social support, lack of motivation, career, etc., [21]. The impact of occupational stress on the FHCP managing COVID-19 cases in the different hospitals could be detrimental to their mental health well-being, of which could have a long-term effect on the workers' mental well-being.

Several studies have shown that stress among the FHCP during the pandemic could occur as a result of managerial and organizational factors including: lack of PPE's; lack of information or communication; shortage of equipment for managing patients e.g. (ventilators and bed space); shortage of staff and excessive workload; unpreparedness or fear of facing challenges of the pandemic. This could also compromise their mental well-being and adjustment in the workers' daily social and family lifestyles [14,13,15]. Also, there are other biological factors of mental health disorders such as; age, gender etc. Although, few studies have shown the differences in age and mental health disorders; such as depression and anxiety. Neuber *et al*, [22] and Lowe et al [23] noted that older health care professionals (HCPs') experiences lesser stressor, negative emotions and better mental health well-being, whereas the younger HCPs' are at greater risk of mental health disorders. This is due to the optimistic nature of adults in managing their emotions. Whereas, Bruine de bruine [24] posit that the older adults are at lower risk of mental disorder. On the contrary, studies have also shown that there is no difference in the age that could be affected by mental disorders [25,26]. This means that all age groups are at risk irrespective of being old or young. Although, studies showed that difference exist between genders of FHCP; that is the female HCPs' are likely to be exposed to the risk of infections, stress or other associated factors including mental disorders [27,28,29,30]. On the contrary, Bahahdah [31] noted that there is no difference between genders of FHCP managing COVID-19 disease.

## 1.4. Mental Health Coping Strategies for FHCP

The frontline health care professionals' managing COVID-19 disease need some coping strategies to help them face the challenges of stress at the work place or build their resilience towards the effects of stress on their mental well-being. However, intervention should be focused on providing coping strategies; including preventive measures and training of health care professionals on other measures to help them cope with the crisis at the frontline.

The world health organization [WHO] [4] recommendation on psychological and mental health measures to support the workers this period through promoting the mental health well-being is focused on; improving the worker's skills through information, communication and social supports system. FHCP are encouraged to adopt positive behaviors or attitudes that would promote a positive mental well-being. These includes; maintaining healthy lifestyle, resting, virtually getting in touch with families and friends, ensuring team work and connecting with colleagues and other health care teams as form of social supports while at the workplace (hospitals). Moreover, studying the differences that exist between marital status of FHCP; study from Liu *et al* [28] revealed that the female married HCPs' in general are known for lack of supports, this due to work-family conflict that exist among them. That is, the married HCPs' lack coping strategies. In contrast, Badahdah *et al* [31] reported that marital status has no impact on the mental well-being of FHCP managing COVID-19 disease, since the married HCPs' reported less stress.

Lazarus and Folkman [32] highlighted two forms of coping strategies identified as; emotional focused coping strategies and problem focused coping strategies. The emotional coping strategies (accepting responsibilities, distancing and positive reappraisal), the individual worker manages his or her emotional response to threat or challenges at the work environment that lead to stress. Whereas, problem focused coping strategies which includes; confrontive coping strategies, self-control, plan problem solving and seeking social supports helps the worker to adjust or reduce the threats in the work environment in a suitable way. However, for the FHCP to cope in the face of COVID -19 Challenges or threats in their workplace, there is need the workers engage in cognitive-behavioral approaches which may likely help them restructure their emotions and behavior towards the threat. The FHCP need to be properly equipped with social supports needs and skills that would enhance their ability of utilizing resilience whilst managing COVID-19 cases at the different isolation Centre's or hospitals. Thus, this would help the FHCP maintain a positive mental health that would equally improve their health and well-being. Moreover, supports from both Governmental and nongovernmental organizations in terms of providing resources: these could be work equipment's like PPEs to ensure the workers safety, provision of their basic needs and incentives etc. Also, supports from colleagues and families are required this period, for example emotional supports. Finally, to ameliorate the devastating effect of COVID-19 on the FHCP mental well-being, there is need their adhere to certain coping strategies including; the best coping strategies that suit each individual worker; improve their stress management skills and also adhere to the recommended WHO strategies, so as to maintain a positive mental well-being not just during the pandemic but in the long run.

#### 2. Material and methods

This study was a descriptive analytical survey conducted in two tertiary hospitals in southern Nigeria; Niger Delta University Teaching Hospital Bayelsa State (NDUTH) and Irrua Specialist Hospital Edo State, Nigeria. The total population of this study comprises of all FHCP managing COVID-19 cases in the two hospitals. A purposive sampling technique was used to draw a sample of 39 from NDUTH and 142 from Irrua Specialist hospitals making a total of 181 sample size. The instrument used for data collection was a questionnaire titled "Warwick-Edinburgh Mental Well-being

Scale (WEMWBS); the new well-being measure tool (Tennant  $et\ al\ [33]$  was adapted by the researchers". The responses were structured into Likert four-point scale of Every time (ET), Often (O), Rarely (R) and Never (N). The instrument was validated by the researchers and other experts in the field of mental health well-being and stress. The reliability of the instrument was ensured through the Cronbach alpha statistic and a reliability coefficient of 0.87 was obtained. A research question and three hypotheses were formulated for this study. A written consent was sought from respective participants before collection of data. Duration for the distribution and retrieval of questionnaire i.e. data collection lasted for four (4) weeks ( $2^{nd}$  July  $-28^{th}$  July 2021).

#### 2.1. Statistical analysis

Descriptive statistics of mean and standard deviation were used to calculate for socio-demographic characteristics and the mental health well-being of FHCP. Whereas, inferential statistics of t-test, and One-way analysis of variance were used to test the hypotheses, and also drawn conclusions in this study with a significant level of P < 0.05. SPSS software version 20 was used for data analysis.

## 3. Results

**Research Question One**: What is the mental health well-being of FHCP managing COVID-19 Cases in the two Tertiary Hospitals of Bayelsa and Edo States, Nigeria?

**Table 1** Mental Health Well-being of FHCP managing COVID-19 Cases in the two Tertiary Hospitals of Bayelsa and Edo States, Nigeria

S/No			Bayelsa		Edo	
	Item Description	Mean (X)	Decision	$\begin{array}{c} \textbf{Mean} \\ (\overline{X}) \end{array}$	Decision	
1	I am positive that my tomorrow will be better	2.44	Reject	2.22	Reject	
2	I have been helpful in assisting the patients	2.21	Reject	2.51	Accept	
3	I have been feeling relaxed at work	2.33	Reject	2.50	Accept	
4	I have been feeling involved in other peoples affairs	2.03	Reject	2.58	Accept	
5	I have had energy to spare during stress	2.79	Accept	2.50	Accept	
6	I have been able to manage my worries myself without assistance	2.44	Reject	2.34	Reject	
7	I have been able to express my ideas for better understanding	2.54	Accept	2.43	Reject	
8	I have been feeling good about myself	2.08	Reject	2.35	Reject	
9	I am confident of my skills	2.23	Reject	2.61	Accept	
10	I have good interpersonal relationship with my colleagues at work	2.62	Accept	2.38	Reject	
11	I have been able to take decision concerning my life	2.31	Reject	2.50	Accept	
12	I have been feeling loved by my loved ones	2.64	Accept	2.35	Reject	
13	I have been interested in learning new things	2.21	Reject	2.37	Reject	
14	I have been feeling happy with people around me	2.50	Accept	2.42	Reject	
	Grand Mean	2.38		2.43		

Table 1 shows the mental health well-being of FHCP managing COVID-19 Cases in the two Tertiary Hospitals of Bayelsa and Edo States, Nigeria. The data reveals that items numbers 1,2,3,4,6,8,9,11 and 13 have mean scores less than the

criterion mean of 2.50 which means that these items were rejected by the participants. While items 5,7,10,12 and 14 have mean scores above 2.50 which means that the participants accepted these items. The participants in Bayelsa State had a grand mean of 2.38 which is less than the 2.50 criterion mean. This means that the participants in Bayelsa State rejected most of the items listed on the table. This means that the participants in Bayelsa State have a negative mental health well-being in managing COVID 19 cases. Whereas in Edo state the result reveals that items 1,6,7,8,10,12,13 and 14 have mean scores less that the required minimum mean criterion of 2.50, this means that the items were rejected by the respondents. While, items numbers 2,3,4,5,9 and 11 have mean scores above 2.50 which means that these items were accepted by the respondents. The participants in Edo State had a grand mean of 2.43 which is less than the 2.50 criterion mean. This means that participants in Edo State also have a negative mental health well-being in managing COVID 19 cases.

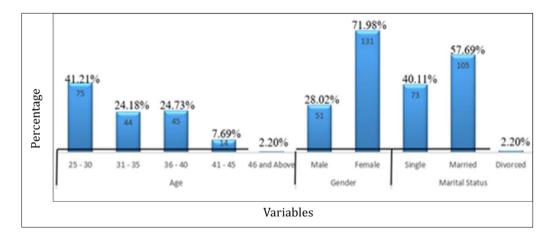


Figure 1 Demographic Characteristics of Participants

Figure 1 shows the demographic characteristics of participants in this study. From the above result, for Gender 131 representing (71.98%) of the respondents were female and 51 (28.02%) were male, 75 representing (41.21%) were between the ages of 25-30 years, 44 (24.18%) were within the ages of 31-35 years, between the ages of 36-40 represent 45(24.73%), between the ages of 41-45 represent 14(7.69%) and 4(2.20%) were within the age range of 46 and above. Also, 105 representing (57.69%) were married, 73 representing (40.11%) of the participants were single, while 4 (2.20%) were divorced.

**H01:** There is no significant difference in mental health disorder that could affect the mental health of FHCP managing COVID-19 Cases based on age in the two Tertiary Hospitals of Bayelsa and Edo States, Nigeria.

**Table 2** One-Way Analysis of Variance (ANOVA) of Mental Health Disorder That Could Affect the Mental Health of FHCP Managing COVID-19 Cases Based on Age in the two Tertiary Hospitals of Bayelsa and Edo States, Nigeria.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	59.302	4	14.825	0.002	1.000
Within Groups	1401905.468	177	7920.370		
Total	1401964.769	181			

α= 0.05

Table 2 shows ANOVA analysis of mental health disorder that could affect the mental health of FHCP managing COVID-19 cases based on age in tertiary hospitals in Bayelsa and Edo States, Nigeria. The results indicate that F  $_{(4,177)}$  = 0.002, P=1.000 which is significant at 0.05 alpha level. The sig value of 1.000 is statistically higher than 0.05 alpha level. Hence, the null hypothesis is accepted. This implies that there is no significant difference in mental health disorder that could affect the mental health of FHCP managing COVID - 19 cases based on age in Bayelsa and Edo States in Southern Nigeria.

 $H0_2$ : There is no significant difference in the factors responsible for mental disorders associated with FHCP managing COVID-19 cases based on gender in two tertiary hospitals in Bayelsa and Edo States.

**Table 3** t-test Analysis of Factors Responsible for Mental Disorders Associated with FHCP Managing COVID-19 Cases Based on Gender in two Tertiary Hospitals in Bayelsa and Edo States

Gender	N	Me <u>an</u> (X)	Standard Deviation	Df	tcal	Sig (2-tailed)	Decision
Male	51	31.90	61.94				Accept
Female	131	28.42	94.32	180	0.244	0.808	Null Hypothesis

Table 3 shows the t-test analysis of factors responsible for mental disorders associated with FHCP managing COVID-19 cases based on gender in two tertiary hospitals in Bayelsa and Edo States. The results reveals that t-calculated is 0.244 and sig value is 0.808 at 0.05 level of significance. The sig value of 0.808 is statistically higher than critical sig value of 0.05. This means that the null hypothesis which states that there is no significant difference in the factors responsible for mental disorders associated with FHCP managing COVID-19 Cases based on gender in Bayelsa and Edo States is accepted. That is there is no statistically significant difference in the factors responsible for mental disorders associated with FHCP managing COVID-19 cases in Bayelsa and Edo States.

**H0**<sub>3</sub>: There is no significant difference in the mental health coping strategies for FHCP managing COVID-19 cases based on marital status in two tertiary hospitals Bayelsa and Edo States, Nigeria.

**Table 4** One-Way Analysis of Variance (ANOVA) of Mental Health Coping Strategies for FHCP Managing COVID-19 Cases Based on marital status in the two Tertiary Hospitals of Bayelsa and Edo States, Nigeria

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	38.152	2	19.076	0.003	0.997
Within Groups	1291587.041	179	7215.570		
Total	1291625.192	181			

Table 4 shows ANOVA analysis of mental health coping strategies for FHCP managing COVID-19 cases based on marital status in two tertiary hospitals in Bayelsa and Edo States. The above results indicate that F  $_{(2,179)}$  = 0.003, P=0.997 which is significant at 0.05 alpha level. The sig value of 0.997 is statistically higher than 0.05 alpha level. Hence, null hypothesis is accepted. This means that there is no significant difference in the mental health coping strategies for FHCP managing COVID-19 cases based on marital status in Bayelsa and Edo States.

## 4. Discussion of Findings

The findings in Table 1 shows that FHCP managing COVID-19 Cases in tertiary hospitals in Bayelsa and Edo States have a negative mental health well-being. This implies that the FHCP are faced with some challenges such as; shortage of staff, demand of work, burnout and stress at the frontline which has negatively impacted on their mental health well-being. This finding is in agreement with previous studies by Lai *et al* and Zhang *et al*, [15,16] who concluded in their separate studies that health care professionals managing COVID-19 disease are at higher risk of stress that exposed them to mental health disorders like anxiety, depression, sleep disturbances, etc. The results in table 2 shows that there is no significant difference in mental health disorders that could affect the mental well-being of FHCP managing COVID-19 Cases in Bayelsa and Edo States. This finding is in conformity with evidences from Qiu *et al*, and Wang *et al* [25,26] in their separate studies it was concluded that, there is no difference in the age at which health care professionals could be affected by mental disorders such as depression and anxiety etc. This means that all age groups are at risks irrespective of the age differences.

Furthermore, result in table 3 shows there is no statistical significant difference in factors responsible for mental disorders associated with FHCP managing COVID-19 Cases based on gender in tertiary hospitals in Bayelsa and Edo States. This finding is in conformity with study by Badahdah *et al* [31] which noted that, there is no difference between genders of FHCP managing COVID-19 disease. However, COVID-19 impact on the mental well-being of FHCP affects all regardless of their gender differences. Table 4 shows there is no statistical significant difference in the mental health

coping strategies for FHCP managing COVID-19 Cases based on marital status in Bayelsa and Edo States, Nigeria. Other literatures in this regard has noted the differences that exist in the mental health coping strategies of FHCP managing COVID-19 [31,28]. Thus, no study exists on the differences in marital status and coping strategies that has been conducted in the two states in Nigeria. This study finding shows there is no significant difference in the marital status and coping strategies of FHCP managing COVID-19 cases; therefore, this has created a gap in this present study.

#### 5. Conclusion

The study conclude that a negative mental health well-being exists among FHCP Managing COVID-19 Cases in the selected tertiary hospitals in Bayelsa and Edo States. The FHCP are faced with some challenges at the frontline which has negatively impacted on their mental well-being. The challenges are demand of work, shortage of staff, burnout, stress etc. Also, the findings in the study indicated there is no difference in the marital status and coping strategies of FHCP managing COVID-19 cases, which has led to a gap in this study. Therefore, due to the enormous negative impacts of this virus on the mental well-being of FHCP, there is need to ensure a positive mental health well-being of these professionals at the frontline. Thus, it is recommended that FHCP should adhere to the best coping strategies that suit them the most; they should improve their stress management skills and there is need for relevant authorities or employers to provide them with PPEs, training and retraining packages, incentives and technologies to connect them to their families and loved ones so as to enhance a positive mental health well-being of all FHCP throughout the period of COVID -19 and afterwards.

## Compliance with ethical standards

## Acknowledgments

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## Disclosure of conflict of interest

The authors declare no conflict of interest.

# Statement of ethical approval

Ethical approval was sought from the College of health sciences (CHS) NDU, NDUTH and Irrua specialist hospital ethical committees (CHSEC, 15/6/2020).

#### Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

#### References

- [1] World meter's COVID-19 data. "World meter COVID-19 statistics" [Internet]. Available from https://www.worldometers.info/coronavirus/.2020
- [2] Nigeria Centre for Disease Control. "Protecting the Health of Nigerians" [Internet]. Available from https://ncdc.gov.ng/.2020
- [3] World Health Organization. Coronavirus disease (COVID-19) situation dashboard. Available from https://covid19.who.int/.2020a
- [4] World Health Organization. Mental health and psychosocial consideration during the COVID-19 outbreak. Available from https://www.who.int/docs/default- source/coronaviruse/mental-health-considerations.pdf. 2020b

- [5] Loiwal M. 20% increase in patient with mental illness since coronavirus outbreak: Survey India Today. Available from https://www.indiatoday.in/india/story/20-per-cent-increase-in-patients-with-mentalillness-since-coronavirus-outbreak-survey-1661584-. Aug 31 2020;03-31
- [6] Kumar A, Nayar K.R. COVID-19 and its mental health consequences. Journal of Mental Health. (Abingdon, England). 2020 Apr 27;30(1):1-2.
- [7] United Nation Development Programme. Coronavirus Disease COVID- 19 Pandemic. Available from http://www.undp.org/content/undp/en/home/coronavirs/html 2020.
- [8] World Health Organization. Promoting mental health: Concepts, emergency evidence, practice: summary report. Geneva. Available from https://www.who.int/mental\_health/evidence/en/promoting\_mhh.pdf 2004
- [9] Galderisi S., Heinz A., Kastrup M., Beezhold J., Sartorius N. Toward a new definition of mental health. World Psychiatry. 2015 Jun; 14(2):231–233.
- [10] Xu J, Xu QH, Wang CM, Wang J. Psychological status of surgical staff during the COVID- 19 outbreak. Psychiatry Research. 2020 Jun 1; 288:112955.
- [11] Vinkers CH, van Amelsvoort T, Bisson JI, Branchi I, Cryan JF, Domschke K, Howes OD, Manchia M, Pinto L, de Query D, Scchmidt MV. Stress resilience during the coronavirus pandemic. European Neuropsychopharmacology. 2020 Jun 1;35: 12-16.
- [12] Keyes C. L. Mental health as a complete state: How the salutogenic perspective completes the picture. Bridging occupational, organizational and public health. 2014;179-92.
- [13] Ayanian J. Z. Mental health needs of health care workers providing frontline COVID-19 care. JAMA Health Forum. American Medical Association Apr 1[2020]; (4): p. e200397-e200397.
- [14] Hogan L. The 'Psychological First Aid' Helping Healthcare Workers through Crisis; RTÉ Ireland's National Television and Radio Broadcaster.2020. Available from https://www.rte.ie/news/coronavirus/-covid19-coronavirus-mental-health-medical-staff/. 2020;0409/1129401
- [15] Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, Wu J, Du H, Chen T, Li R, Tan H. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Network Open. 2020 Mar 2;3(3): e203976.
- [16] Zhang C, Yang L, Liu S, Ma S, Wang Y, Cai Z, Du H, Kang L, Su M, Zhang J. Survey of insomnia and related social psychological factors among medical staff involved in the 2019 novel coronavirus disease outbreak. Frontiers in Psychiatry. 2020;11: 306.
- [17] Frich NC, Frich L E. Psychiatric Mental Health Nursing: Understanding the Client as well as the condition. Illustrated. Delmar Publishers;1998.
- [18] World Health Organization. Mental health disorders. [internet]. Available from https://www.int/news-room/fact-sheet/detail/mental-disorders.
- [19] Pappa S, Ntella V, Giannakas T, Giannakoulis VG, Papoutsi E, Katasounou P. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. Brain, Behavior, and Immunity, 2020 Aug 1;88: 901-7.
- [20] McMahon SA, Ho LS, Brown H, Miller L, Ansumana R, Kennedy CE. Healthcare providers on the frontlines: a qualitative investigation of the social and emotional impact of delivering health services during Sierra Leone's Ebola epidemic. Health Policy Planning. 2016 Nov 1; 31(9):1232-9.
- [21] Prasad K, Vaidya RW. Association among Covid-19 parameters, occupational stress and employee performance: An empirical study with reference to Agricultural Research Sector in Hyderabad Metro. Sustainable Humanosphere. 2020 May 1;16(2): 235-253.
- [22] Neubauer AB., Smyth JM., Sliwinski MJ. Age differences in proactive coping with minor hassles in daily life. The Journals of Gerontology: Series B. 2019 Jan 1;74(1): 7–16.
- [23] Lowe B, Wahl I, Rose M, Spitzer C, Glaesmer H, Wingenfeld K, Brähler E. A 4-item measure of depression and anxiety: Validation and standardization of the Patient Health Questionnaire-4 (PHQ-4) in the general population. Journal of affective disorders. 2010 Apr 1;122(1-2):86-95.
- [24] Bruine de Bruin W. Age differences in COVID-19 risk perceptions and mental health: Evidence from a national US survey conducted in March 2020. The Journals of Gerontology: Series B. 2021 Feb; 76(2): 24-29.

- [25] Qiu J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the CoViD-19 epidemic: implications and policy recommendations. General Psychiatry. 2020;33(2).
- [26] Wang C, Pan R, Wan X, Tan Y, Xu L, Ho C S, Ho R C. Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus disease (COVID-19) epidemic among the general population in China. International Journal of Environmental Research and Public Health. 2020 Jan; 17(5): 1729.
- [27] Connor J, Madhavan S, Mokashi M, Amanuel H, Johnson NR, Pace LE, Bartz D. Health risks and outcomes that disproportionately affect women during the Covid- 19 pandemic: A review. Social Science & Medicine. 2020 Dec 1; 266: 113364.
- [28] Liu S, Yang L, Zhang C, Xu Y, Cai L, Ma S, Wang Y, Cai Z, Du H, Li R, Kang L. Gender differences in mental health problems of healthcare workers during the coronavirus disease 2019 outbreak. Journal of psychiatric research. 2021 May 1; 137: 393-400.
- [29] Richardson S, Hirsch J S, Narasimhan M, Crawford JM, McGinn T, Davidson KW, Barnaby DP, Becker LB, Chelico JD, Cohen SL, Cookingham J. Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized with COVID-19 in the New York City Area. JAMA, 2020 May 26; 323(20):2052-9
- [30] Global Health. [Internet]. Sex, gender and COVID-19: Disaggregated data and health disparities. Blog: BMJ. 2020 Mar 24. Available from: https://blogs.bmj.com/bmjgh/2020/03/24/sex-gender-and-covid-19-disaggregated-data-and-health-disparities/
- [31] Badahdah A M, Khamis F, Al Mahyijari N. The psychological well-being of physicians during COVID-19 outbreak in Oman. Psychiatry research. 2020 Jul;289: 113053.
- [32] Lazarus R S, Folkman S. Stress, appraisal and coping. New York: Springer publishing company;1984.
- [33] Tennant R, Hiller L, Fishwick R, Platt P, Joseph S, Weich S, Parkinson J, Secker J, Stewart-Brown S. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation, Health and Quality of Life Outcome. 2007; 5:63. doi:101186/1477-7252-5-63.