HEALTH ANXIETY AND STRESS AMONG HEALTH PROFESSIONALS DURING COVID-19 IN CAPE COAST, GHANA.

BRIDGETTE BAABA NZIMA-MENSAH,
Counselling Centre,
College of Education Studies, University of Cape Coast, Cape Coast, Ghana
Email: bridgette.lemaire@ucc.edu.gh

and

ANTHONY K NKYI,
Department of Guidance and Counselling,
College of Education Studies, University of Cape Coast, Cape Coast, Ghana
Email: ankyi@ucc.edu.gh

*Corresponding author
Anthony K Nkyi
Email: ankyi@ucc.edu.gh*

ABSTRACT

The aim of this study was to investigate experiences of Health Anxiety and Stress during the COVID-19 pandemic among healthcare professionals in selected hospitals in the Cape Coast Metropolis. This study adopted the Descriptive survey design. The Multistage Sampling technique was used to select 322 health professionals. The health professionals included Medical Officers, Physician Assistants and Nurses. Data analyses were gathered using the Health Anxiety Inventory (HAI-SF) and Perceived Stress Scale (PSS). Analyses were done using mean and standard deviation, ANOVA and Pearson Correlation Coefficient. The findings showed that healthcare professionals in the Cape Coast Metropolis experienced low levels of health anxiety and stress during the current COVID-19 pandemic. There were no significant differences in the experiences of health anxiety and stress with regard to the categories of health professionals. The results revealed that health anxiety and stress were not significantly correlated. Further empirical studies are needed to understand why anxiety may not necessarily be related to stress. The findings of the study provide insight into the impact of COVID-19 on the psychological wellbeing of health professionals involved in the care of patients with COVID-19. The current study provides new knowledge for health professioanls and other stakeholders.

Keywords: *Health anxiety, stress, health professionals, COVID-19*

INTRODUCTION

COVID-19 is an infectious disease that is linked with a higher prevalence of morbidity and mortality worldwide (WHO, 2020). The disease has caused significant social, economic and health crises (Wasim, Raana, Bushra & Riaz, 2020). Compared with the general population, health professionals are more highly susceptible to this infectious disease due to their essential role as health providers (Ornell, Schuch, Sordi, & Kessler, 2020). Given the urgency of the pandemic, health professionals are required to adjust to new work schedules, long hours of work and heavy workload in a resource-depleted environment (Pappa, Ntella, Giannakas, Giannakoulis, Papoutsi, & Katsaounou, 2020). Additionally, the growing number of discovered cases among the general population and health workers, lack of adequate protective equipment, lack of medication and support are significant predictors of occupational burnout among health workers (Neto et al., 2020).

Wasim, Raana, Bushra and Riaz (2020) revealed that though physical wellbeing of health professionals (provision of personal protective equipment, adequate training to prevent infections,

and other safety measures) has been taken care of by the health sectors in many countries, the mental health needs of health professionals have received little or no attention in many countries. Wasim and colleagues found health professionals experienced a severe level of anxiety, insomnia, stress, and depression. Moreover, psychological disturbances among healthcare workers could lead to attention deficit, impairment in cognitive function, and impairment in clinical decision-making (Wasim et al, 2020). The presence of such impairment will mostly affect the performance of health professionals and could lead to serious medical mistakes and adverse events and eventually put innocent patients at risks of death or irreversible medical harm. Chang, Xu, Rebaza, Sharma, and Cruz (2020) established that for optimum delivery of quality health care to the populace, the wellbeing and mental health of healthcare professionals are important issues to consider. Without adequate measures and interventions, the impact of COVID-19 will have debilitating and enduring consequences on health professionals. It seems that empirical studies assessing the psychological impact of COVID-19 on health workers are limited in Ghana, especially in the Central Region. While few studies have been conducted on the psychological impact of COVID-19 pandemic in Ghana, only a handful have been dedicated to the psychological wellbeing of healthcare professionals who are the frontline workers (Afulani et al., 2020; Swaray et al., 2021; Ofori, Osarfo, Agbeno, Man, & Amoah, 2021, Oti-Boadi, Malm, Dey, & Oppong, 2021).

Ofori, Osarfo, Agbeno, Manu, and Amoah (2021) studied the psychological impact of COVID-19 on health workers in Ghana. The study adopted the multicentre cross-sectional study approach. A total of 272 participants were recruited to complete DASS-21, Fear of COVID-19 scales and other self-developed scales. According to the results, approximately 40% of health workers had significant level of fear, while around 9% reported significant level of fear. The authors recounted that the need for a recognition of the psychological effect of the pandemic on health workers is important and that policies be undertaken to address these issues.

In another related study, Oti-Boadi, Malm, Dey, and Oppong (2022) examined psychological distress and coping among university students. The study sampled 209 participants in the online survey, spanning between June and July 2020. According to the results many students scored an above-average mean mark for fear of the Coronavirus pandemic. This signifies a significant level of fear associated with the Coronavirus pandemic. Similarly, Asmundson, Paluszek, Landry, Rachor, Mckay, and Taylor (2020) examined the extent to which having an existing anxiety and mood disorders can influence or affect stress and coping with the COVID-19 pandemic. According to the study, though persons with anxiety-related and mood disorders exhibited higher scores on stress, a variety of factors such as fears about danger and infection, socioeconomic effects, xenophobia, and traumatic stress, its impact on coping strategies were not identified. The study concluded that persons with anxiety and mood disorders are highly affected by COVID-19 pandemic.

It is evident from the works of the above-cited scholars that the period of the COVID-19 pandemic was a stressful period in the lives of health care workers. The feeling of being scared about the possibility contracting the disease and also transferring the infections to their families was a significant source of health anxiety by these workers. The findings of the above scholars are crucial for the current study as they provide meaning and ascertain the level of health anxiety experienced by health workers which is a major objective of this study.

In Ghana, Swaray et al. (2020) examined the psychological distress amongst medical laboratory professionals involved in COVID-19-related duties. The study adopted the descriptive survey to select 473 participants from all the 16 regions in Ghana. The results indicate that medical laboratory professionals experienced high level of psychological distress.

Afulani et al. (2020) also investigated the psychological impact of the lack of preparedness for response to the COVID-19 pandemic among healthcare workers in Ghana. The study was an online survey which recruited 823 participants to complete the perceived preparedness scale, stress, and burnout scale. The results showed that healthcare workers who felt somewhat prepared and prepared had lower levels of stress than those participants who felt very unprepared. The authors concluded that perceived unpreparedness to the COVID-19 pandemic increases the stress and burnout of healthcare professionals,

Huang et al. (2020) in assessing the factors that affect anxiety of healthcare workers with high exposure risk to COVID-19 within the radiography departments asserted that higher levels of anxiety can cause serious physical and mental harm to healthcare workers, and this will, in turn, affect patient safety and the work efficiency of these healthcare workers.

Empirical studies have established that during the outbreak of the SARS (between 2002 and 2004) many health professionals considered resignation due to the challenges they faced from being extremely stigmatized and the fear of spreading and infecting their family and friends. These challenges related to significant levels of psychological distresses (Lee et al., 2007; Brug et al., 2004). Also, Wu et al. (2009) found that healthcare workers are at higher risk of mental disorders namely fear, anxiety, depression, and sleep disorder. According to Temsah et al. (2020), the coronavirus pandemic has surged the levels of stress among health professionals, and this has raised concerns that the psychological impact of the disease is on the ascendancy. These empirical discoveries insinuate a pressing demand to develop interventions to enhance the mental health of healthcare professionals.

In Ghana the virus has had a significant impact on the country. With over 2,000 health professionals infected and the majority being in fear of contracting the disease (Tarlue, 2020), there is a crucial requisite to wholly measure the Health Anxiety and Stress levels of health workers during the current Covid-19 for informed decision making and interventions to enhance their physical, mental and social wellbeing (Afulani et. al.2020; Ofori, Osarfo, Agbeno, Man, & Amoah, 2021, WHO, 2020). It is against this sordid background that this study investigated health anxiety and stress during Covid-19 pandemic.

Aim of the study

In our present study, we aimed at assessing the levels of health anxiety and stress among healthcare professionals; to determine the difference among healthcare professional (medical doctors, Physician Assistants Nurses) in terms of health anxiety and stress; examine the relationship between health anxiety and stress among healthcare professionals regarding the Covid-19 pandemic in selected hospitals in the Cape Coast Metropolis.

Research questions:

What is the level of health anxiety among health care professionals amidst COVID-19 pandemic in selected hospitals in the Cape Coast Metropolis

What is the level of stress among healthcare professionals during the COVID-19 pandemic in selected hospitals in the Cape Coast Metropolis?

Hypotheses:

It was hypothesized that the categories of health professionals would experience health anxiety and stress differently during this COVID-19 era.

It was also hypothesized that there would be relationship between experiences of health anxiety and stress among health care professionals during the current COVID-19 pandemic.

METHODS

Research Design
This study adopted the quantitative research methodology, where the aim is to numerically quantify the collection and analysis of the data (Bryman, 2012). Specifically, the descriptive survey was used for the study.

Study Area
The study was conducted in Cape Coast Metropolis in the Central Region of Ghana. Specifically, the study gathered data from health professionals at the Cape Coast Teaching Hospital (CCTH) and the University of Cape Coast Hospital (UCC-H) in the Cape Coast Metropolis, the capital town of the Central Region of Ghana.

Population
The target population was made up of health professionals (Medical Officers, Physician Assistants, and Nurses) registered in the CCTH and the UCC-Hospital. These facilities served as COVID-19 emergency response units with special wards designated for confirmed and suspected cases on COVID-19. The estimated number of Medical Officers, Physicians Assistants, and Nurses in CCTH is 1,188 (281 Medical Officers, 4 Physicians Assistants, and 903 Nurses). The UCC Hospital has a total number of 139 (12 Medical Officers, 7 Physicians Assistants, and 120 Nurses). The estimated population for the study from the two facilities is 1,327 health professionals.

Inclusion and exclusion Criteria
Participants were individual health professionals who were on duty during the start of the Coronavirus pandemic and had not proceeded on leave or vacation.

Sampling Procedure
The sample size for the study was selected using the Multistage Sampling technique. First, the stratified sampling procedure was used whereby the entire population was divided into subgroups (strata-Doctors, Physicians Assistants, and Nurses). A percentage was calculated to ensure that each of the group is fairly represented from each facility. The assumptions of this sample size determination table include a 95% confidence level, 5% margin of error, and a 50% variance of the population.

The purposive sampling procedure was also adopted to choose eligible candidates for the research. By this sampling procedure, participants were chosen because they are health professionals from the CCTH and UCC Hospital. Additionally, participants were health professionals who were on duty during the onset of the pandemic in Ghana and had not taken a leave or proceeded on vacation.

After ensuring that each subgroup is fairly represented in terms of percentages, and eligibility, the convenience sampling procedure was used to select participants. The approach under this method considered participants who were readily available and willing to engage in the study. For this reason, data were gathered from available participants. The procedure is presented in table 1.

Table 1 – Distribution of estimated sample of Health Professionals (HP)

Category of HP	Population		Combined Population	Estimation of Health Professionals for the study		
				Proportionate computation sample	Estimate Sample	
	CCTH	UCC-H			CCTH (89%)	UCC-H (7%)
Medical Officers	281	12	293	(293 ÷ 1327) × 306 = **67**	60	7
Physician Assistants	4	7	11	(11 ÷ 1327) × 306 = **3**	2	1
Nurses	903	120	1023	(1023 ÷1327) × 306 = **236**	210	26
TOTAL	**1,188**	**139**	**1,327**	**306**	**267**	**25**

Instruments

The data collection tools 3-part questionnaire consisting of a demographic characteristics questionnaire, the Health Anxiety Inventory (HAI).and the perceived stress scale.

 The demographic characteristics questionnaire included questions regarding age, gender and job category, work experience.

The HAI-SF was adopted to examine experiences of health anxiety among health professionals. It is a self-report scale developed by Salkovskis, Rimes, Warwick and Clark (2002) to measure indications of illness related to anxiety and hypochondria. It includes 18 items scored on a 4-point Likert scale ranging from 0 to 3 in the 3 components of worry about health (7 items; 0–21 points), awareness of bodily sensations or changes (6 items; 0–18 points) and feared consequences of having an illness (5 items; 0-15 points). The total score range of this questionnaire is 0–54 points. Scores of 0–18, 18–36, and above 36 indicate a low, moderate, and high health anxiety level respectively. Rabiei, Klantari, Asgari and Bahrami (2013) revealed that the scale measures the extent to which people are worried about disease infection and the behaviours they would portray if they were to be infected with that disease. In other words, HAI-SF assesses an individual's anxiety related to perceived illness or their exact reactions if they were to be diagnosed with a serious health condition. The short form of this questionnaire was first developed by Salkoskis and Warwick (2002), and included 18 items scored on a 4-point Likert scale ranging from 0 to 3 in the 3 components of worry about health (7 items; 0–21 points), awareness of bodily sensations or changes (6 items; 0–18 points), and feared consequences of having an illness (5 items; 0-15 points). The total score range of this questionnaire is 0–54 points. Scores of 0–18, 18–36, and above 36 indicate a low, moderate, and high health anxiety level.   A test value or hypothesized mean of 2.5 was determined as the standard against which the mean of means and the item mean would be compared. An obtained mean lesser than the test value shows participants

experienced significantly less. health anxiety whiles a score above the hypothesized mean reveals the experiences of significantly high levels of health anxiety. According to Salkovskis et al (2002), the scale has a good reliability coefficient (Cronbach Alpha = 0.89). A test-retest of the scale proved good reliability coefficient (r=0.90).

d. The Perceived Stress Scale (PSS) was developed by Cohen and Williamson (1988). Arguably, this scale is the most common scale for the measurement of stress among a varied population. The PSS used in this study measured the level of stress among health professionals during the COVID-19 pandemic in the Cape Coast Metropolis. Participants had to report on their feeling of being upset, ability to control irritations, the feeling of nervousness, confidence to handle personal issues, loss of control, how often they became angry because things were out of control. The scale has 10 item scale rated on a 5 Likert scale ranging from 0 = Never to 5 = Very often. Participants were required to respond to the scale by indicating their agreement or disagreement with each item.

Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0-13 would be considered low stress. Scores ranging from 14-26 would be considered moderate stress. Scores ranging from 27-40 would be considered high perceived stress. A test value mean of 3.0 was determined as a criterion measure. A score above the test value indicates that participants experienced significantly higher levels of stress, whereas an obtained score lower than the test value shows participants experienced significantly lower stress. According to the authors, the PSS demonstrated good internal consistency reliability (Cronbach's alpha=0.78).

Pilot Testing of the Instrument
The instrument was pilot tested at the Cape Coast Metropolitan Hospital with a total of 40 health professionals (5 Medical Officer, 6 Physician Assistant, and 29 nurses). The reliability coefficient (Cronbach's Alpha) of the adopted scales was computed. Results obtained from the study were compared against the initial reliabilities and the reliability Cronbach alpha of health were anxiety scale (18 items) 0.71 and   Perceived Stress Scale (PSS) 0.89.

Procedure
The study was approved by the Institutional Review Board (IRB) of the University of Cape Coast (UCCIRB/CES/2021/39).) Letter was submitted to the appropriate authorities of the CCTH and UCC–H for their approval to conduct the study. After approval was given, all health professionals were informed about the aim, as well as the right to participate or disengage from this research. Eligible persons who agreed to partake in the study were educated on the requirement of the questionnaire and the proper ways to fill them. Participants who signed an informed consent form were given copies of demographic questionnaire and Health Anxiety Inventory (HAI-SF and Perceived Stress Scale (PSS) to complete. Due to the work schedule of health professionals, they were contacted at different time ranges. Approximately, data collection spanned for two months.

Data Analysis
All completed questionnaires were rechecked for consistency and completeness. Coding and computerization were done after the creation of data analysis fields with SPSS version 27. The editing procedure helped check whether all items had been accurately responded to. Section A, which gathered data on demographic characteristics (gender, age, and category of health professionals). was analysed descriptively using frequency and percentage. Research questions one and two were answered using means and Standard Deviation. Hypotheses one and two were tested using One-way Analysis of Variance (*ANOVA*) and Pearson Moment Correlation respectively.

RESULTS

Demographic characteristics

This sub-section presents and discusses the background characteristics of the participants, namely gender (male and female), age, and category of health professionals (Medical Doctors, Physician Assistants and Nurses). The result of the analysis is presented in Table 2

Table 2– Distribution of Participants by Demographic Characteristics (n=322)

Variable	Sub-scale	Frequency	Percentage%
Gender	Male	80	24.8
	Female	242	75.2
	Total	**322**	**100.0**
Age (in years)	18-29	213	66.2
	30-49	107	33.2
	50-60	2	0.6
	Total	**322**	**100.0**
Category of Health Profession	Medical Doctors	19	5.9
	Physician Assistants		
		17	5.3
	Nurses	286	88.8
	Total	**322**	**100.0**

Source: Field survey, (2021)

As shown in Table 2, the majority of participants were female health professionals (n = 242, 75.2%). Regarding age categories, most participants were between "$18-29 \, years$" (n = 213, 66.2%). Lastly, nurses dominated the study, representing approximately two-thirds of the sample (n = 286, 88.8%). This result reflects the fact that nurses represent the highest percentage of health professionals in Ghana.

Research question one sought to find out the level of health anxiety among health professionals during the current COVID-19 pandemic. Descriptive statistics were generated as means and standard deviations were used to determine the level of health anxiety among healthcare professionals. The results of table 3 indicate that health professionals in the Cape Coast Metropolis experienced significantly lower health anxiety during the current pandemic with the mean of means score (*M = 1.946, SD = .861*).

Table 3 – Results of Means and Standard Deviation of Health Anxiety among Health professionals.

Item	M	SD
I do not worry about my health	2.26	.832
I notice aches and pains less than most other people (of my age)	2.11	.993
I am not aware of bodily sensations or changes	2.43	.895
Resisting thoughts of illness is never a problem	2.18	.832
I am not afraid that I have a serious illness	2.02	.842
I do not have images (mental pictures) of myself being ill	1.68	.821
I do not have any difficulty taking my mind off thoughts about my health	1.80	.840
I am lastingly relieved if my physician tells me there is nothing wrong	1.86	.935
If I hear about an illness, I never think I, have it myself	1.82	.897
If I have a bodily sensation or change, I rarely wonder what it means	2.17	.968
I usually feel at very low risk for developing serious illness	1.92	.934
I never think I have a serious illness	1.67	.841
If I notice an unexplained bodily sensation, I don't find it difficult to think about other things	1.78	.769
My family and friends would say I do not worry enough about my health	2.01	.706
If I had COVID-19, I would still be able to enjoy things in my life quite a lot	1.88	.891
If I had developed COVID-19, there is a good chance that modern medicine would be able to cure me	1.71	.779
A serious illness would ruin some aspect of my life	1.72	.863
If I had a serious illness, I would not feel that I had lost my dignity	1.84	.854
Mean of Means/ Standard Deviation	1.946	.861

Source: Field survey, (2021)

Research question two sought to find out the level of stress encountered by healthcare professionals. The data were analysed using Means and Standard Deviation. A test value mean of 3.0 was determined as a criterion measure Results show that Medical Officers, Physician Assistants, and Nurses experienced a significantly low level of stress during the current pandemic.

As indicated the Mean of means (*M = 2.864, SD = 1.061*) is significantly lower than the hypothesized mean (3.0). (See table 4 below).

Table 4– *Results of Means and Standard Deviation of Stress among Health professionals.*

Items	Mean	SD
In the past month, how often have you been upset because of something that happened unexpectedly?	2.80	.992
In the last month, how often have you felt that you were unable to control the important things in your life	2.53	1.068
In the last month, how often have you felt nervous and "stressed"	2.95	.964
In the last month, how often have you felt confident about your ability to handle personal problems?	3.23	1.178
In the last month, how often have you felt that things were going your way?	3.16	.994
In the last month, how often have you found that you could not cope with all things that you had to do?	2.68	1.071
In the last month, how often have you been able to control irritations in your life?	2.95	1.080
In the last month, how often have you felt that you were on top of things?	3.00	1.055
In the last month, how often have you been angered because of things that were outside your control?	2.76	1.072
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2.58	1.128
Mean of Means/ Standard Deviation	2.864	1.061

Source: Field survey, (2021)

Hypothesis one was to determine the difference among healthcare professional (medical doctors, Physician Assistants Nurses) in terms of Health Anxiety and Stress during the Covid-19 pandemic in selected hospitals in the Cape Coast Metropolis.

This analysis was conducted in two sections. First, the categories of health professionals (Medical Doctors, Physician Assistants, and Nurses) were compared to health anxiety. Second, the category of health professionals was assessed in terms of experiences of stress.

Preliminary investigations were made to guarantee the use of one-way analysis of variances. Table 5 and 6 below present the results of Test of Normality and Homogeneity of variances of category of health professionals in terms of health anxiety.

Table 5 – *Test of Normality of Category of Health Professionals and Health Anxiety*

	Shapiro-Wilk		
Category of Health Profession	Statistic	*df*	Sig.

Health anxiety	Medical Doctor	.967	19	.710
	Physician Assistants	.958	17	.587
	Nurse	.990	285	.069

Source: Field survey, (2021)   not   Significant p > 0.05

The result of normality test showed that the data is normally distributed and the Sig. value of the Shapiro-Wilk Test for the categories (*Medical Officers: p = .710; Physician Assistants: p = .587; Nurses: p = .069*) are greater than 0.05. A test of Homogeneity of Variances was conducted to confirm the assumption that justifies the use of the statistical tool *ANOVA*

Table 6 – Test of Homogeneity of Category of Health Professionals and Health Anxiety

Levene Statistic	df1	df2	Sig.
1.353	3	318	.260

Source: Field survey, (2021)   Significant p < 0.05

The sig. value is greater than 0.05 (p = .260) signifying that equal variances are assumed in the data (table 6), Meeting these assumptions, ANOVA analysis was computed to examine probable differences among health professionals with regard to experience of health anxiety. From the table 7 below it was found that there is no significant difference among health professionals (Medical Doctors, Physician Assistants, and Nurses) with regard to experience of health anxiety during this COVID-19 pandemic [F (3, 318) = 1.915, p = .149]. the p = .149, indicating that the analyses is not statistically significant.

Table 7– ANOVA Results for Category of Health Professionals In Terms of Health anxiety

Group	Sum of Squares	*df*	Mean Square	F	Sig.
Between Groups	179.083	3	89.541	1.915	.149
Within Groups	14820.305	318	46.752		
Total	14999.388	321			

Source: Field Survey, (2021)   Significant p < 0.05

        Further analyses were computed for differences in experienced of health professionals in terms of experienced of stress during this COVID-19 pandemic. Tables 8 and 9 present the results of normality test and Homogeneity of variances among the data. Table 8 below demonstrates that the data are normally distributed. This is shown in the sig. values of the Shapiro-Wilk test of the categories of health professionals which are greater than 0.05. The results presented in Table 9 below indicate that equal variances are assumed among the data. This is because the sig. value is greater than .05 (p = .952).

 Table 8– Test of Normality of Category of Health Professionals and Stress

	Shapiro-Wilk		
Category of Health Profession	Statistic	df	Sig.

	Medical Doctor	.929	19	.169
Stress	Physician Assistant	.934	17	.255
	Nurse	.970	286	.103

Source: Field survey, (2021)   Significant p > 0.05

Table 9– *Test of Homogeneity of Category of Health Professionals and Stress*

Levene Statistic	df1	df2	Sig.
.050	2	319	.952

Source: Field survey, (2021)   Significant p > 0.05

ANOVA analyses of significant differences among health professionals in terms of stress found. no significant difference among Medical Doctors, Physician Assistants, and Nurses regarding stress during this COVID-19 pandemic [F (3, 318) = .086, p = .918].
Hypothesis two sought to find the relationship between experiences of health anxiety and stress among health professionals during the current COVID-19 pandemic. The hypothesis was tested using a Pearson Moment Correlation Coefficient. The results revealed that health anxiety and stress were not significantly correlated, (r = .020, p = .726). Table 10 presents the results of the analysis.

Table 10 – Results of Pearson Moment Correlation between Health Anxiety and Stress

		Health Anxiety	Stress
Health Anxiety	Pearson Correlation	–	.020
	Sig. (2-tailed)		.726
	N		322

Source: Field survey, (2021)   Significant p < 0.05

DISCUSSION

In our study, we found that medical officers, physician assistants, and nurses in the Cape Coast Metropolis experienced low health anxiety and stress during the current pandemic. The experiences of low health anxiety and stress do not necessarily mean the absence of fear and panic, but it reflects the fact that the panic and fear associated with the pandemic, from their perspective, is relatively low. The results of the study could be ascribed to the fact that health professionals had received adequate education and information regarding procedures to ensure their safety, that of patients, and their loved ones. During data collection, Ghana had also come out of lockdown and had seemingly been able to control the second and third waves of the disease. This could also account for the reason why health professionals experienced low level of health anxiety and stress. Due to the long span of the pandemic, a formidable plan is required to enhance the psychological wellbeing of healthcare professionals.

The discovery of the present study is consistent with a study by Khanal et al. (2020) on mental health impact of the COVID-19 pandemic among healthcare personnel who discovered that health workers within the pandemic experienced symptoms of anxiety, depression and insomnia. The results also agree with a study by Spoorthy, Pratapa, and Mahant, (2020) who

exposed that the Coronavirus pandemic is an independent determinant of anxiety and stress among healthcare professionals. Thus, the occurrence of the pandemic has an impact on the psychological wellbeing of healthcare professionals.

Consistent with the current study results, Vizheh et al. (2020) conducted a review on the mental wellbeing of healthcare personnel during the COVID-19 pandemic and reported that the lowest incidence of stress and anxiety among the population was 29.8%, and 24.1% respectively. On the other hand, the highest incidence of the variables was as follows: stress (62.9%) and anxiety (67.6%). This review point to the fact that, factors such as time of the study, geographical area, and prevalence of infection in an area, and the preparedness of health workers significantly contribute to the prevalence of psychological impacts among healthcare professionals.

Furthermore, Neto et al. (2020) found out in a study that explored the mental health of health personnel who directly cared for COVID-19 patients. They also found out that, job-associated stress is an essential cause of health concerns for health workers. In the study, heavy workload, countless deaths of patients and fellow health workers, and long work shifts were associated with anxiety. In line with the results of the study, Pappa et al. (2020), in a systematic review of 33, 062 health workers found that 23.2 % and 22.8 % of healthcare workers experienced anxiety. Although the current study is not a comparative one, it gives a good indication of their findings to the findings of this current study. It is concluded that although pandemics enact a higher level of anxiety and stress on health personnel, the findings of this study in the Cape Coast Metropolis are low.

The discussion of empirical findings related to the current study underscore the psychological impact of the pandemic on health professionals. Although the outcomes of the current study showed significantly low psychological impact of the pandemic on participants, it must be noted that this result reflects the whole sample and not individual participant experiences. While the experiences may not be even, it is assumed that significant proportion of the participants might experience significantly high level of health anxiety, stress other emotional problems, hence warranting the need to tailor inventions to meet individual needs rather than the whole sample.

Another significant discovery of the study indicated no significant difference in the occurrences of stress and health anxiety in terms of category of health professionals (Medical officers, Physician Assistant, and Nurses). In other words, the experiences of health anxiety in the wake of this pandemic are quite similar across all categories of health professionals.   At variances with the result of this study, Vizheh et al. (2020) discovered that nurses are more susceptible to severe emotional disorders than other health professionals. Further contrary findings to the current study's is Pappa et al. (2020) who found nurses exhibiting higher rates of affective symptoms compared to other medical staff. Some other studies like Liu et al. (2020), also argued that nurses are at a disadvantage because they are more prone to infection during pandemic due to their work schedule that cause them to spend more hours in caring for patients affected with the pandemic, than other medical practitioners.

Furthermore, the fifty-one studies review by Moitra et al. (2021) indicate that there were differences in symptoms among categories of health workers. Comparably, the outcome of the current study is unrelated to the other findings as all the results of all categories of health professionals experienced similar level of stress. This may be a result of shared responsibilities, mutual understanding, and respect among health professionals in the Cape Coast Metropolis.

In line with Shechter *et al.* (2020)'s study and AlAteeq, Aljhani, Althiyabi, and Majzoub, (2020) the level of anxiety experienced by nurses was significantly higher than that of

administrators, physicians, non-physician specialists, technicians and pharmacists. These studies also go contrary to the findings of the current study.

The disparities between the results of the study and empirical review could be attributed to the fact that almost all the studies appraised were conducted during the peak of the pandemic and thus nurses had a heavy workload and schedule which predisposed them to significantly higher levels of mental health disorders. Parallel to our current study, the data were taken during a period when the cases of infection of COVID-19 had dramatically reduced and there was also introduction of vaccines. These reasons are good enough to reduce the psychological effects of the pandemic among health professionals.

The finding of the current study are inconsistent with other studies (Asmundson et.al , 2020; Korkmaz et. al, 2020; Mo et al., 2020) discovered that anxiety was positively associated with stress among frontline health professional during the current pandemic. Another study, Poursadeghiyan et al. (2016) which investigated the link among occupational stress, anxiety, depression and job satisfaction among nurses in Iran was not in line with the results of this study. The study found that stress from workplace is linked with anxiety and depression. Whiles the study was conducted before the onset of COVID-19 it provides the impetus for understanding the extent to which stress and anxiety are related. Other finding that deviates from the results of the current study examined psychological distress among Indians during the periods of Covid-19 lockdown (Rehman et al., 2021) indicate significant high positive correlation existed between depression, anxiety, and stress. The long queue of findings in contradiction to the findings of the current study is voluminous.

The empirical evidence presented so far, showed a distinction from the findings of the study. As noted form the literature, most studies found a significant association between anxiety and stress. The results of the current study may suggest that at the time of the data collection, the levels of health anxiety and stress were low and that may have impact on their relationship. This may suggest that further empirical studies are needed to understand why anxiety may not necessarily be related to stress

Limitations
Our study had certain limitations . First, all variables under consideration were assessed with self-reported measures, which may result in single-source bias. Additionally, the self-report nature of data collection was also subject to multiple recall biases from participants. Finally, it should be acknowledged that the use of the descriptive survey design imposes a limitation. The descriptive design only describes what happens at the time of data collection and therefore findings cannot be generalized to other areas or situations at a different time interval.

Conclusions
First, this research clearly disclosed that professionals in the Cape Coast Metropolis have been less affected psychologically in the current pandemic. Experiences of health anxiety and stress were quite similar across all categories of healthcare professional. In other words, the psychological impact of COVID-19 pandemic was of the same magnitude for Medical Officers, Physician Assistants, and Nurses in the Cape Coast Metropolis. It could be asserted that the unpreparedness of Ghana to handle the pandemic took similar toll of health professionals who became the frontiers in the fight against the pandemic.

The findings of the study provide insight into the impact of COVID-19 on the psychological wellbeing of health professionals involved in the care of patients with COVID-19. The study would

assist stakeholders in healthcare settings to plan and execute quality measures to assist health professionals to overcome mental health challenges and associated with this novel condition. Health professionals in the Cape Coast Metropolis may consider the impact of health anxiety and stress on their psychological wellbeing during this pandemic. Lastly, it will add to the bulk of research concerned with the impact of COVID-19 on the psychological health of healthcare professionals.

Implications for Clinical practice

The mental health of healthcare professional needs is to be supported if they are to give meticulous and mistake-free healthcare. Psychologists/counsellors in hospitals therefore should run periodic group guidance and counselling programmes for their colleague health workers.

Psychologists both in hospitals and out of hospitals could engage healthcare professionals on group guidance sessions to initiate talks on mental health during the current COVID-19 pandemic. Since not all hospitals have resident Counsellors and Clinical Psychologists, the Ghana Psychology Council could create a website of Counsellors in various Districts in Ghana so that health workers who are overwhelmed with the impact of COVID-19 may access for psychological help.

Hospital Administrators and Psychologists should be actively involved in providing psychological support including counselling services, development of support systems such as regular cyber support among others to healthcare professionals. Healthcare professionals must be encouraged to voice their mental health challenges. They must be educated to pay attention to their psychological wellbeing and seek early support through psychotherapy.

REFERENCES

Afulani, P. A., Gyamerah, A. O., Aborigo, R., Nutor, J., Malechi, H., Laar, A., ... & Awoonor-Williams, J. J. (2020). Perceived preparedness to respond to the Covid-19 pandemic: a study with healthcare workers in Ghana. *Medrxiv*. https://doi.org/10.1101/2020.07.10.20151142

AL Ateeq, D. A., Aljhani, S., Althiyabi, I., & Majzoub, S. (2020). Mental health among healthcare providers during coronavirus disease (COVID-19) outbreak in Saudi Arabia. *Journal of Infection and Public Health*, *13*(10), 1432-1437.

Asmundson, G.J.G., Paluszek, M.M., Landry, C. A., Rachor,G. S., McKay, D., Taylor, S. (2020)*.* Do pre-existing anxiety-related and mood disorders differentially impact COVID-19 stress responses and coping?. Journal of Anxiety Disorders. (IF 3.079) *DOI:* 10.1016/j. janxdis.2020.102271

Brug, J., Aro, A. R., Oenema, A., De Zwart, O., Richardus, J. H., & Bishop, G. D. (2004). SARS risk perception, knowledge, precautions, and information sources, The Netherlands. *Emerging Infectious Diseases*, *10*(8), 1486.

Chang, D., Xu, H., Rebaza, A., Sharma, L., & Cruz, C. S. D. (2020). Protecting health-care workers from subclinical Coronavirus infection. *The Lancet Respiratory Medicine*, *8*(3), E13.

Cohen, S. , & Williamson, G. (1988). *Perceived stress in a probability sample of the United States.* In S. Spacapan & S. Oskamp (Eds.), The social psychology of health (pp. 31-68). Newbury Park, CA : Sage.

Huang, L., Wang, Y., Liu, J., Ye, P., Chen, X., Xu, H., ... & Ning, G. (2020). Factors influencing anxiety of health care workers in the radiology department with high exposure risk to COVID-19. *Medical science monitor: international medical journal of experimental and clinical research*, *26*, e926008-1.

Khanal, P., Devkota, N., Dahal, M., Paudel, K., & Joshi, D. (2020). Mental health impacts among health workers during COVID-19 in a low resource setting: a cross-sectional survey from Nepal. *Globalization and health*, *16*(1), 1-12.

Korkmaz, S., Kazgan, A., Çekiç, S., Tartar, A. S., Balcı, H. N., & Atmaca, M. (2020). The anxiety levels, quality of sleep and life and problem-solving skills in healthcare workers employed in COVID-19 services. *Journal of Clinical Neuroscience*, *80*, 131-136.

Lee, A. M., Wong, J. G., McAlonan, G. M., Cheung, V., Cheung, C., Sham, P. C., ... & Chua, S. E. (2007). Stress and psychological distress among SARS survivors 1 year after the outbreak. *The Canadian Journal of Psychiatry*, *52*(4), 233-240.

Moitra, M., Rahman, M., Collins, P. Y., Gohar, F., Weaver, M., Kinuthia, J., ... & Kumar, M. (2021). Mental health consequences for healthcare workers during the COVID-19 pandemic: a scoping review to draw lessons for LMICs. *Frontiers in psychiatry*, *12*, 22.

Neto MLR, Almeida HG, Esmeraldo JD, Nobre CB, Pinheiro WR, de Oliveira CRT, Sousa IDC, Lima OMML, Lima NNR, Moreira MM, Lima CKT, Júnior JG, da Silva CGL. (.2020).When health professionals look death in the eye: the mental health of professionals who deal daily with the 2019 coronavirus outbreak. Psychiatry Reseatch. doi: 10.1016/j.psychres.2020.112972. PMID: 32302817; PMCID: PMC7152886.

Ofori, A. A., Osarfo, J., Agbeno, E. K., Manu, D. O., & Amoah, E. (2021). Psychological impact of COVID-19 on health workers in Ghana: A multicentre, cross-sectional study. *SAGE Open Medicine, 9, 205031 21211000919.*

Ornell, F., Schuch, J. B., Sordi, A. O., & Kessler, F. H. P. (2020). "Pandemic fear" and Covid-19: Mental health burden and strategies. *Brazilian Journal Of Psychiatry*, *42*(3), 232-235.

Oti-Boadi, M., Malm, E., Dey, N. E. Y., & Oppong, S. (2022). Fear of COVID-19: Psychological distress and coping among university students in Ghana. *Current Psychology*, *41*(11), 8260-8270. doi: 10.1007/s12144-021-02267-5.

Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsi, E., & Katsaounou, P. (2020). Prevalence of depression, anxiety, and insomnia among healthcare workers during the Covid-19 pandemic: a systematic review and meta-analysis. *Brain, Behavior, And Immunity*, *88,* 901-907.

Poursadeghiyan, Mohsen, et al. "Relationship between job stress and anxiety, depression and job satisfaction in nurses in Iran." *The social sciences* 11.9 (2016): 2349-55.

Rabiei, M., Kalantari, M., Asgari, K., & Bahrami, F. (2013). Factor structure analysis, validity and reliability of the health anxiety inventory short form. *Journal of Depression and Anxiety*, *2*, 2167-1044.

Rehman, U., Shahnawaz, M. G., Khan, N. H., Kharshiing, K. D., Khursheed, M., Gupta, K., Kashyap, D., & Uniyal, R. (2021). Depression, anxiety, and stress among Indians in Times of COVID-19 lockdown. Community Mental Health Journal, 57(1), 42–48. https://doi.org/10. 1007/s10597-020-00664-x

Salkovskis, P. M., Rimes, K. A., Warwick, H. M. C. & Clark, D. M. (2002). The health anxiety inventory: development and validation of scales for the measurement of health anxiety and hypochondriasis. *Psychological Medicine*, *32*(5), 843.

Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic–A review. *Asian journal of psychiatry*, *51*, 102119..https://doi.org/10.1016/j.ajp.2020.102119

Swaray, S. M., Tetteh, J., Ekem-Ferguson, G., Awinibuno, I. A., Adu-Gyasi, D., Acheampong, F., & Yawson, A. E. (2021). Psychological Distress Amongst Medical Laboratory Professionals Involved in COVID-19-Related Duties: A Nationally Stratified Cross-Sectional Survey, Ghana. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *58*, 00469580211067479.

Tarlue, M., (2020, July 16). 2,065 Health workers test positive for Coronavirus. *Dailyguide Network.* Https://Dailyguidenetwork.Com/ 2065-Health-Workers-Test-Positive-For-Coronavirus/

Temsah, M. H., Al-Sohime, F., Alamro, N., Al-Eyadhy, A., Al-Hasan, K., Jamal, A., ... & Al-Subaie, S. (2020). The Psychological impact of Covid-19 pandemic on health care workers in a Mers-Cov endemic country. *Journal of Infection and Public Health*, *13*(6), 877 -882.

Vizheh, M., Qorbani, M., Arzaghi, S. M., Muhidin, S., Javanmard, Z., & Esmaeili, M. (2020). The mental health of healthcare workers in the COVID-19 pandemic: A systematic review. *Journal of Diabetes & Metabolic Disorders*, 1-12.

Wasim, T., Raana, G. e., Bushra, N., & Riaz, A. (2020). Effect of covid-19 pandemic on mental wellbeing of healthcare workers in tertiary care hospital. *Annals Of King Edward Medical University*, *26*(Special Issue), 140-144.

World Health Organization (2020). Rolling update on the coronavirus disease (Covid-19). Geneva, Switzerland.Https://Www.Who.Int/Emergencies/Diseases/Novel-Coronavirus-2019/Events-As-They-Happen

Wu, P., Fang, Y., Guan, G., Fan, B., Kong,J., Yao, Z. Liu, X., Fuller, C. J., Susser E., Lu, J. & Hoven, C. W. (2009). The psychological impact of the SARS epidemic on hospital employees in China: exposure, risk perception, and altruistic acceptance of risk*. Can J Psychiatry. 54*(5): 302–311. doi: 10.1177/070674370905400504.