



An Investigation of Psychological Effects of Covid-19 Pandemic on Medical Health Care Personnel of Some Hospitals in Katsina State, Nigeria.

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Abstract

Medical health care personnels experienced unexpected levels of workload and pressure resulting into psychological problems since the emergence of corona virus disease in 2019 (COVID-19). Corona virus heavily disturbed health care system, throughout the world. Katsina state health personnels also were faced with such problems. This study was aimed at identifying the psychological effects of COVID-19 pandemic on medical health care personnels of Katsina State. Questionnaires was administered to the target respondents which are the health care personnels sampled at random from some selected hospitals, different psychological effects of covid-19 were identified among the respondents. Among the effects identified includes posttraumatic stress, stress, anxiety, perceived stress, passive coping. Health care personnels also were reported to have suffered from depression, sleepless night, and distress caused by the pandemic. Results findings Indicates that health care personnels experienced post traumatic stress with 25%, while for anxiety was 17%, stress with 25%, perceived stress 20% and passive coping with 15% respectively. Percentages provided in tables represents number of health care personnels who experienced one or more than one of the noticed psychological problem associated with covid-19 pandemic in all the six hospitals studied namely Katsina general hospital, federal medical center Katsina, Funtua, Daura, Dutsin-ma and Malunfashi general hospitals. In view of the findings it is recommended that strategies to reduce the chance of infections such as longer shift period from work place among health care personnels and the introduction of mechanisms for helping psychological problem caused by Covid-19 pandemic should be encouraged.

Key words: Covid-19, Health care personnels, Identification, Katsina State, Psychological problems.

Introduction

The history of human corona virus infections began in 1965 when Tyrrell and Bynoe found that the virus named B814 exists. It was found in human embryonic tracheal organ cultures obtained from the respiratory tract of an adult with a common cold. The presence of an infectious agent was demonstrated by inoculating the medium from these cultures intranasally in human volunteers, colds were produced in a significant proportion of subjects, but Tyrrel and Bynoe were unable to



grow the agent in tissue culture at the time. At about same time, (Hamre and Procknow, 2014) were able to grow a virus with unusual properties in tissue cultured medical students with cold (Dong, T, 2013)

SARS-V-2 is a new virus that is responsible for an outbreak of respiratory illness known as corona virus disease 2019 (COVID-19). It is an infectious disease caused by a newly discovered corona virus that spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes (WHO, 2020) The virus is mainly spread during close contact between persons and by small droplet produced during coughing, sneezing or talking (ECDP, 2020). These small droplets are also produced during breathing but can rapidly fall to the ground or surface and are not generally spread through the air over large surface (WHO, 2020).The virus can also infect people by touching a contaminated surface and then their face and the common symptoms include high fever, persistent cough and shortness of breath (USCDCP, 2020).

The cases of the disease were firstly reported in Wuhan, Hubei province in China December 2019, and have since spread across the world (Xu *et al.*, 2020). From China the virus has spread to virtually all continents of the world and affecting countries that are both developed and developing in both temperate and tropical regions. Some of the worst affected countries include United States of America, Brazil, Russia, India, United Kingdom, Spain, Italy, Peru, Germany and Iran etc. World Health Organization (WHO) declared the corona virus outbreak as a public health emergency of international concern on 30th January, 2020 and recognized it as a pandemic on 11 March 2020. These declarations were mainly due to the almost simultaneous infections around the world within 1-3 months, the geographical spread of the virus and the fact that there is no known



vaccine or specific antiviral treatment, which lead to high mortality rates among those infected by the disease. World Health Organization (WHO, 2021) reported that as February 16, 2021 epidemiological update of corona virus indicated that the number of global new cases reported to have continued to fall, with 2,7million new cases last week, a 16% decline compared to the previous week. The number of new deaths reported also fell with 81,000 less death reported last week, a 10% decline as compared to the previous week. This bring the global cumulative number 108.2 million cases and 2.3million cases since the start of the pandemic

Corona virus cases in Africa as of February 23, 2021 report indicates that the number of confirm cases in Africa was totalled to 3,872,085 in Africa, South Africa was the most drastically affected country with more than 1.5 million infected.

According to the Nigeria Center of Disease Control (NCDC, 2021) Corona virus in Nigeria update as of 13th February,2021 indicated that there are 1143 new cases giving the total number of 145,664 confirm. The number of discharged from hospital was 120,399, while total death from the disease was 1,747

The World Health Organization reported that one in ten health personnels is infected with corona virus in some countries (1) in September 2020, 15% of those affected COVID-19 in Italy were health personnels (4) in October 2020, the International Council of Nurses reported that at least 120,000 health care personnels have been infected and more than 390 nurses had died in COVID-19 pandemic(5) in March 2020, one in four doctors in UK were off sick, in isolation or caring for a family members with COVID-19 (6).The UK government announced that retired healthcare



professionals would be brought out of retirement to help during the COVID-19 crisis. This led to concerns that they could be at a higher risk for severe COVID-19 illness.

Medical care workers of Katsina State experienced unprecedented levels of workload and pressure since the outbreak of corona virus disease (COVID-19) in 2019. Little is known about its exact effects on medical care personnels and related factors in Katsina. This study aimed at identify the psychological effects of COVID-19 on medical health care personnels in Katsina State

Methodology

From June to July, 2020 a cross patients survey was conducted with total of four hundred and thirteen (413) health personnels in all the hospitals across the state. Sampled 110 medical care workers were selected by drawing representatives from the total populations of the health personnels (413) considering their age groups, sex, profession, educational level. The hospitals surveyed includes Katsina General Hospital, Funtua General Hospital, Daura General Hospital, Dutsin-ma General Hospital, Malunfashi General Hospital and Federal Medical Center Katsina (FMC) using questionnaires to determine and measure the adverse psychological effects on the health personnels

Hospital workers from all the selected hospitals were selected, Doctors, Nurses, Laboratory scientist and hospital cleaners. Questionnaires were presented each of them to read and fill inn and responses was collected and results determined.

A total of one hundred and ten (**110**) structured questionnaires were constructed by the researcher, produced copies and distributed to the health workers of the selected hospital listed above for the



study. Twenty (25) questionnaires was given to the health personnels of Katsina General Hospital and Federal Medical Center Katsina in view of their locations being in the state capital and probably having the largest number of staff compared with the Hospitals in the villages under local Government, while the rest of the Hospitals were given fifteen questionnaires (15) each. Patiently distributed questionnaires were all retrieved backed through the help of research assistances. The questionnaires method used for this research measured parameters and which includes areas such as post traumatic stress depression, Anxiety and Stress related to psychological factors like perceived threat, social support and passive coping, factors analysis was performed to identify the level and dimension of the perceived threat The questionnaire has three section A which is the biography of the respondent, section B is on Covid-19 information, while section C samples suggested for the remediation's of the problems. The responses gathered from the respondents were carefully studied and using statistical tool of percentages from which the result was recorded and analyzed.

Results and Discussions

The demographic characteristics of the respondent shows that majority were Hausa by tribe 95 workers (86%), majority 78 (70%) were male while 32 workers (29%) were females. The average age of the respondent was between the ages 25-58 years, majority were married with number of children while some were single.

The educational level of the respondents ranges from secondary to tertiary levels and have studied different disciplines that are related to medical professions such as medical Doctors, Nurses, laboratory scientist



Table: 1 Shows Psychological effects of COVID-19 on Katsina General Hospital Health care personnels

Name of Hospital	Impacts	Numbers	(%)
Katsina General Hospital	Posttraumatic stress	8	32
	Anxiety	4	16
	Stress	7	28
	Perceived Stress	4	16
	Passive coping	2	8
Total		25	100

Adopted from Simon Stevin,(1548)

A questionnaire distributed at Katsina General Hospital was carried out by sampling health workers randomly across the departments and health units sections of the Hospital. This was focused with the aim of measuring how parameters identified above were noticed during the pandemic. Eight (8) health workers out of the total 25 (32%) shows that posttraumatic stress terrified them during the event of COVID-19 Pandemic which then accompanied with severe anxiety, as well as uncontrollable thought about what is going to happened if they were called to participate fully in giving health attention to the COVID-19 patients during the event of the pandemic. Other percentages including anxiety, stress perceived stress, and coping as presented in the tables above. The study findings in this was in line with the findings of brook, 2020 were he discovered a number of psychological problems which relates to the outbreak of covid-19 pandemic and also linked to the adverse psychological problem such as depression ,anxiety, thought disorders and post-traumatic stress (Brooks SK, Webster RK, 2020).



Table: 2 Shows Psychological effects of COVID-19 on Katsina General Hospital Health care personnels

Name of Hospital	Impacts	Numbers	(%)
Katsina General Hospital	Posttraumatic stress	7	28
	Anxiety	4	16
	Stress	8	32
	Perceived Stress	2	8
	Passive coping	4	16
Total		25	100

Adopted from Simon Stevin, (1548).

At federal Medical Center Katsina (FMC) responses from the health workers indicated that seven (7) out of the twenty five (25) questionnaires received after distribution mentioned posttraumatic stress among the threat they faced during the event COVID -19 pandemic. There was anxiety and stress numbering to 4(16%) and 8(32%) persons who revealed that the workers had fear and anxiety of having contacted with the disease. While those who had perceived stress and passive coping were having 2 (8%) and 4 (16%) respectively. These findings corresponds with that of medical heath workers reported experienced which include high level of emotional stress, anxiety, depression and PTS during of event covid-19 infectious disease outbreak (Lancee WJ,2008)

Table: 3 Shows Psychological effects of COVID-19 on Funtua General Hospital Health care personnels

Name of Hospital	Impacts	Numbers	(%)
Funtua General Hospital	Posttraumatic stress	4	27
	Anxiety	2	13
	Stress	4.	27
	Perceived Stress	3	20
	Passive coping	2	13



Total **15** **100**

The responses received from the questionnaires administration across departmental and units sections of the Hospital indicated that, at Funtua General Hospital four worker 4 (27%) out of the fifteen shows signs of posttraumatic stress, while two 2 (13%) expresses anxiety on the pandemic .However those who were threatened by stress were four in number 4 (27%), and those with perceived stress and passive coping were 3 (20) and 2 (13) respectively. The results of these findings is line with World Health Organization report (WHO, 2020) on the assessment of psychological impact of Covid-19 on health workers, where it listed them in a report as posttraumatic stress, anxiety, stress, perceived stress and passive coping

Table: 4 Shows Psychological effects s of COVID-19 on Daura General Hospital Health care personnels

Name of Hospital	Impacts	Numbers	(%)
Daura General Hospital	Posttraumatic stress	2	13
	Anxiety	4	27
	Stress	3	20
	Perceived Stress	4	27
	Passive Coughing	2	13
Total		15	100

Adopted from Simon Stevin, (1548).

Questionnaires filled by the health workers from Daura General Hospital departments and units revealed that two persons 2 (13%) experienced posttraumatic stress during the COVID-19 pandemic. Anxiety by the staff was another problem witnessed by the workers of the Hospital having 4 persons 4 (27%), and those complained of stress was indicated by three workers 3



(20%). However perceived stress and passive coughing problems were 4 (27%) and 2 (13%) respectively. (Bai Y, Lin CC,) 2015) where it has shown that the medical care workers in a Taiwan hospital during the outbreak of SARS. IS 5ARS is 5% suffered from an acute stress disorder (ASD) This finding corresponds to suggestion of (Jallonh MF, 2018) where he discovered that, less support and more negative coping strategy were proved to be common predictors of both acute chronic mental health problem caused by the disease

Table: 5 Shows Psychological effects of COVID-19 on Dutsin-ma Gen Hospital Health care personels

Name of Hospital	Impacts	Numbers	(%)
Dutsin-ma General Hospital	Posttraumatic stress	4	27
	Anxiety	2	13
	Stress	4	27
	Perceived Stress	3	20
	Passive Coughing	2	13
Total		15	100

Adopted from Simon Stevin, (1548).

The results from the questionnaires administered at Dutsin-ma general hospitals indicated that four 4 (27%) of the health workers experienced posttraumatic stress during the COVID-19 pandemic period, While those had anxiety numbered 2 (13%). Also those who experienced stress, perceived stress and passive coughing were 4 (27%), 3 (20%) and 2 (13%) respectively. These findings correspond with that of Kang L, (2019) where he suggested that inadequate protection, loss of control, lack of experience in managing the disease, overwork, negative feedback from patients, perceived stigma, significant lifestyle changes, quarantine and less family support.



Table: 6 Shows Psychological effects of COVID-19 on Malunfashi Gen Hospital Health care personnels

Name of Hospital	Impacts	Numbers	(%)
Malunfashi General Hospital	Posttraumatic stress	2	13
	Anxiety	3	20
	Stress	2	13
	Perceived Stress	4	27
	Passive Coughing	4	27
Total		15	100

Adopted from Simon Stevin, (1548).

Obtained questionnaires from Malunfashi General Hospitals indicated that perceived stress and passive coughing has the highest number of impact identified on the health workers with 4(27%) each while anxiety came second with 3(20%) however stress and posttraumatic stress has only two 2 persons. These findings tallies with that of Senga M,(2016) where he reported a similar report on psychological impacts witnessed as a result of previous outbreaks of Ebola virus disease (EVD) in Liberia.

These studies collate responses on the health impact of COVID-19 on the health workers of some hospitals in Katsina State. The findings suggest that health workers are susceptible to various psychological health problems consequences' due to the COVID-19 pandemic, the research findings further revealed that the most common symptoms were Posttraumatic stresses (PTS) which is prevalent among the health workers. Average percentage indicated that the entire respondents have suffered of posttraumatic stress disorder.

The survey conducted uses questionnaire administration and the collection of information



Include assessment of psychological problem caused by the COVID-19 pandemic (e.g perceived stress, anxiety, depression and PTS perceived stress and coping. Experiences witnessed by the staff posed negatively on the psychology of health workers during covid -19 pandemic and was investigated, determined presented using tables above.

The frontline healthcare workers in the studied hospital workers are at risk of physical and mental consequences directly as the results of providing healthcare to patients with COVID-19. Even though there are strategies to reduce the chances of the infections which include shorter shift lengths and mechanism for mental health support which could reduce the risk of infection among the health care workers. Adverse psychological symptoms were prevalent among medical health workers in Katsina state during the COVID-19 epidemic. Screenings for adverse psychological outcomes and developing corresponding preventive measures would be beneficial in decreasing negative psychological outcome.

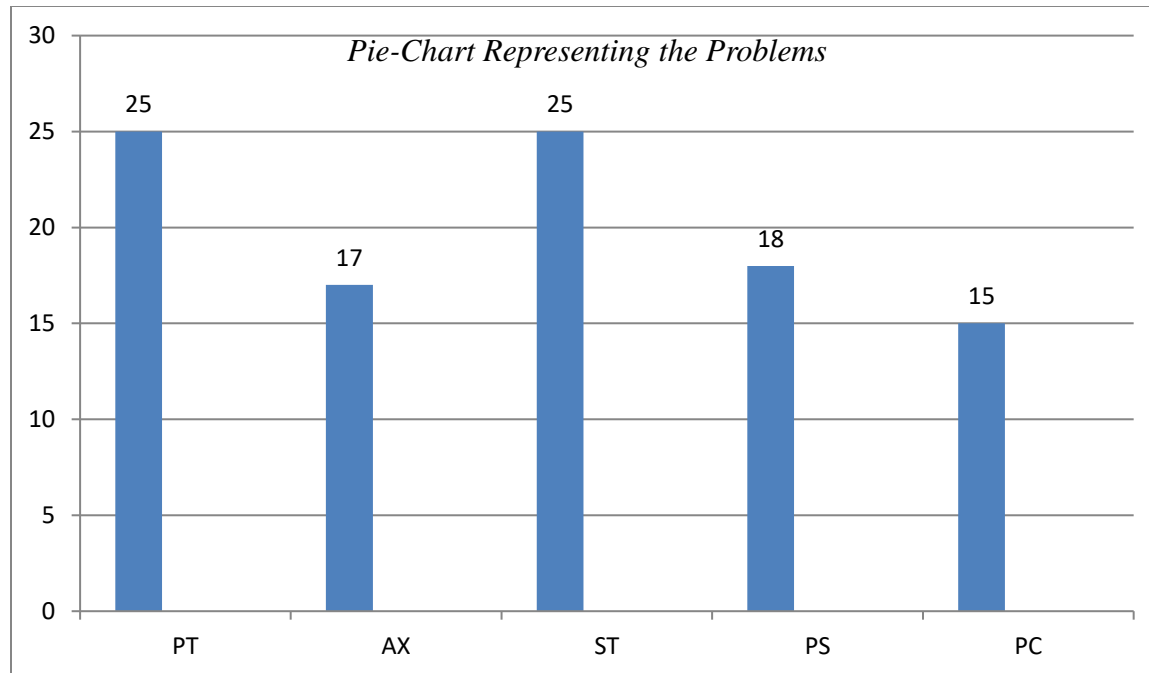
Table 7: Showing summary of the whole results

Psychological Problems	Number	% Percentage
Posttraumatic	27	25
Anxiety	19	17
Stress	28	25
Perceived stress	20	18
Passive coping	16	15
TOTAL	110	100

Adopted from Simon Stevin,(1548).



Figure 1: Pie-chart representation of all psychological problems among health care personnels in the study areas.



Adopted from William playfair (1759)

KEY:

PT – Posttraumatic, **AX** – Anxiety, **ST** – Stress, **PS** – Perceived Stress, **PC** – Passive Copy

Conclusion

This study describes an expansive range of physical psychological symptoms experience by healthcare personnels during the COVID-19 Pandemic or outbreak. There is a significance association between the prevalence, physical, and psychological distress.

The psychological problems were identified among health care workers in katsina state during covid-19 pandemic .Receiving negative information and participating in front-line work appears to be important risk factors for psychological problems. The psychological health of all health



workers especially those that give services to the patients should be protected during the COVID-19 pandemic with timely interventions and proper information feedback.

Among all psychological problem studies and identified, stress has been found to have the highest prevalence having 28 persons, while passive coping is the least prevalence with 16 persons

Recommendations

Based on the research findings the following recommendation were put forward in order to ensure that sustained effective measures were put in place with the hope of preventing the occurrences of psychological impact among health works caused by corona virus pandemic and any other disease in future

1. There is the need for collaboration between federal and state government in ensuring necessary steps is taken in strengthening mental health and wellness for the health workers in hospitals this should include counseling and hazard allowances.
2. Strategy among others to reduce the impact should include the use of shifting technique among the health worker, or don't spend longer time in the work place be adopted in order to reduce the chances of having the virus from patient.
3. Hospital health care workers are more interested in occupation protection, rest and social support which should be provided adequately to reduce the fear of having the disease in their minds which is always better than giving any professional psychological help or advice.



4. Intervention by governments should focus more on addressing individual psychology which should be directed toward solving problem of mismatched that existed between what workers want and services available to them.
5. Recruitments of more qualified health personals are required to meet up with the increasing demand of their services because health workers psychological problem was found to correlates with work load and exposure to the risk of having diseases

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APPENDIX

RESPONDENTS' QUESTIONNAIRES

Introduction

I'm carrying out this research work to investigate for the effects of COVID-19 on the psychology of health workers in some hospitals in Katsina state, you are expected to tick or write short notes where necessary please.

Section A Biography of the respondent

1. Name of respondent (If provided).....

2. Sex

3. Field of profession/Specialization

4. Age

Section B Responses on Covid-19

4. Do you believed on COVID-19 as a health problem?

Yes No

5. How do you responds to the COVID-19 first report in Nigeria as a health worker?

.....

6. As a health worker does you see COVID-19 as a threat to live?

Yes No

7. Are you provided with adequate protective safeties during the discharge of your duties?

Yes No

8. Are there psychological problems experienced or faced for the fear of being health worker?



Yes

No

9. Do you notice posttraumatic stress during the discharge of your duties?

Yes

No

10. Do you experience some anxieties about the disease during the discharge of your duties?

Yes

No

11. Do you notice stress during the discharge of your assigned responsibilities?

Yes

No

12. If yes which type of stress?

Perceived

Not perceived

13. Did you have passive coping during discharged of your duties?

Yes

No