Mental Health Status of Healthcare Providers During Covid-19 Pandemic: Influence of Burden of Care and Work Environment.

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Abstract
Mental illness is one of the leading causes of unproductivity within an economy. Mental health status of healthcare professionals is essential because they are encumbered with the responsibility of providing healthcare services to patients. This study examined the influence of burden of care and work environment on the mental health status of health care providers at a Federal Neuro-psychiatric Hospital in Lagos, Nigeria. A total of 210 participants selected through purposive sampling method participated in descriptive survey research. Structured psychological scales were used in assessing and collecting data from the participants. Detailed data analysis was carried out using statistical techniques which included regression. The results showed that burden of care contributed 16.8% variance in mental health status of healthcare providers while work environment contributed 44.9% variance in mental health status of healthcare providers. Implications of study were discussed in line with healthcare providers mental health, health and economic realities of COVID-19. Appropriate recommendations were put forward.

Key words: Mental health; Burden of care; Work environment; Healthcare providers; Economic realities; COVID-19.
JEL Classification Codes: I12

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1. Introduction

Healthcare providers in health institutions play vital roles in the delivery of comprehensive and quality health care services to patients (Bjorkman, Andersson, Bergström & Salzmann-Erikson, 2019; WHO, 2021) and as a result their physical and mental health status is of critical importance. However, there is increase in the number of healthcare providers who suffer from mental disorders all over the world (WHO, 2021). Globally, healthcare providers suffer from one form of mental disorder due to fatigue and hassle emerging from work related activities (Jennings, 2008; Lohmann, John & Dzay, 2019; Stansfeld, Rasul & Head et al., 2011). Mental health status is a condition of the psychological, social, and mental prosperity of an individual. Mental health is a state of well being, according to the world health organisation (WHO, 2019), in which a person knows one's own abilities, can cope with the usual stresses of life, can work productively, and can contribute to one's community.

People who provide healthcare are sometimes required to carry out tasks that involve making decisions that could have life changing consequences for patients. These tasks may bring hardship that caregivers (Karahan, Kucuksen, Yilmaz, Salli, Gungor, & Sahin, 2014) and health care providers may experience when caring for their patients. The burden of carrying out these tasks effectively can take a toll on those who provide healthcare. Burden of care can lead to the deterioration of the mental and physical health of the care givers (Carretero, Garcés, Ródenas & Sanjosé, 2009) and healthcare providers. Burden of care could explain the physical, mental, social, and financial challenges issues experienced by care givers (Dalir, 2009) and healthcare providers. Moreover, the care givers (Shynequria, 2006) and healthcare providers prioritises the patient's biological, social, and psychological needs in comparison to their own. The care givers and healthcare providers could be exhausted due to excessive pressures and demands with their quality of life decreasing (Shynequria, 2006). Particularly in Neuro-Psychiatric health institutions there is uniqueness of patients who suffer from varying levels of mental illness and mental disorders (Stenson, 2018). As such, the difficulty of engagement with the patients (Whittaker, Williams, Chandler, Cunningham, McGorm and Matthews, 2015) could add to burden of care which can have adverse effects on the mental health of healthcare providers.

Workplace environment could determine employees' level of productivity. Work environment consists of the two major factors which are the physical workplace and the psychosocial workplace. The physical workplace being layout and design, well-designed, safe physical space, good equipment and effective communication among other factors (Vischer, 2008). The physical workplace incorporates factors related to reasons for mishaps and infection. Substantively, the psychosocial workplace include working conditions, role congruity and social support for employees. The psychosocial workplace incorporates conditions related to the cooperation between individuals, their work and the organisation (Kivimäki, Vahtera, Elovainio, Virtanen, & Siegrist, 2007). Psychosocial work conditions could affect health and well-being (Kivimäki, Vahtera, Elovainio, Virtanen & Siegrist, 2007).

According to Kohun (1992) work environment is the totality of the interconnected relationships that exists within the employees and the environment in which the employees work. Working environment is Working environment embrasses all factors that compete with employee's activities and work performance (Kohun, 1992). Thus work may bear financial, mechanical and

mental perspective. Healthcare providers may experience the consequences of the workplace, work environment may likely battle with healthcare providers in the execution of rendering healthcare.

Statistics show that mental disorders cost the global economy US$ 1 trillion each year in lost productivity (WHO, 2019). Mental illness is one of the leading causes of unproductivity within an economy. Conversely, statistics show that for every US dollar invested into treatment for common mental disorders there is a return of at least 4 US dollars in improved productivity (WHO, 2019). The cost of mental illness disorder is higher than that of balanced mental health. Healthcare providers in the Neuro-Psychiatric health institutions are more likely to suffer from mental disorders than employees from other industries (Kabito & Mekonnen, 2020). Furthermore, healthcare providers in Neuro-Psychiatric health institutions engaged in one of the most strenuous and demanding jobs in the health industry (Joubert & Bhagwan, 2018), hence, the need to be in good health to perform their jobs optimally.

Healthcare providers in Neuro-Psychiatric health institutions in Nigeria are not excluded from exposure to the risk of mental disorder. In addition to provision of essential and valuable health services like mental health, health care providers during a crisis, also respond to an outbreak. Nigeria is not excluded nor exempted from Corona Virus Disease 2019 termed COVID-19 a global pandemic (WHO, 2019), which was on January 30, 2020, declared as an outbreak a Public Health Emergency of International Concern WHO (2020a). The Corona Virus (COVID-19) pandemic significantly impacted global health (WHO, 2020b). The importation into Lagos, Nigeria in February 27, 2020 (Maclean & Dahir, 2020; NCDC, 2020) by a foreigner overwhelmed all people especially healthcare providers as frontline workers during the outbreak. Lagos being an epicenter of the pandemic in the country.

According to (WHO, 2020c) by 23 July 2020 10% of all infected cases globally are among health workers. In Africa, 10,000 healthcare workers tested positive to COVID-19 while in sub-Saharan Africa a range of between 5% to 10% of cases of infected health workers are found of varing degrees in various countries. In Nigeria as at 10th September, 2020 there were more than 52, 000 infected cases including 2175 health workers as reported by (WHO, 2020d). COVID-19 is modeling new economic realities (Games, 2020; World Economic Forum Report, 2020a) even in health which covers mental health of healthcare providers. COVID-19 is envisaged to lead to global recession (World Economic Forum Report, 2020b) and Nigeria worst recession in four decades (World Bank, 2020). Nigeria, Africa's most populous country actually slipped into recession in the third-quarter of 2020 for the second time in four years. However, Nigeria, Africa's largest economy also existed recession by the fourth-quarter of 2020 (National Bureau of Statistics, 2021); the growth rate weak though.

The challenges of living up to the ideals of professional practice, the context in which mistakes on the job are governed and the impending negative ethical and professional consequences enhanced sources of burden of care for healthcare providers in Neuro-Psychiatric health institutions (Whittaker, Williams, Chandler, Cunningham, McGorm & Matthews, 2015). In the workplace, especially in healthcare environment, the psychosocial and physical work environment in the new normal may pose threat on the mental health of healthcare providers. However, there is dearth of study on influence of the burden of care and work environment on the mental health status of healthcare providers in Nigeria.

It is the objective of this study to investigate the predictive ability of burden of care and work environment on the mental health status of healthcare providers in Federal Neuro-Psychiatric Hospital, in Lagos, Nigeria. The following hypotheses were tested: (i) Burden of care will significantly influence mental health status of health care providers, (ii) work environment will significantly predict mental health status of health care providers.

The remainder of this study is organized as follows. Secton 2 review the literature. Section 3 presents the methodology and source of data. Section 4 presents and discusses the estimated results. Section 5 concludes and offers recommendations.

2. Literature Review

2.1 Social exchange theory

Social exchange theory developed by Homans (1961) purported that members of an organisation engage in exchanges with each other. Social exchange theory assumes that relationships are interdependent (West & Turner, 2007). An employee for instance could give time and effort in exchange for pay. The organisation provides pleasant work environment in exchange for employee loyalty. The theory of social exchange assumes that relationship between employee and the organisation is the result of a reasonable and rational exchange process. (Schein, 1980) suggested that the degree to which employees are willing to give to the organisation and exert effort is dependent on the weighing of the benefits and costs of each relationship. The extent to which the organisation's expectations of what it will give and receive matches employees expectations of what the organization will give them and what they owe the organization in return; determines whether or not both choose to continue a relationship.

2.2 Psychological Contract Theory

Some theories such as psychological contract theory used the assumptions of social exchange theory to engage in discourse of human relationships. The notion of expectations of give and take in the psychological contract is similar to social exchange theory. Psychological contract theory proposed by Rousseau (1989) suggested that there is informal obligations between the employee and the organisation which specifies what each party expects to give to and take from the other. A psychological contract, represents the mutual but implicit agreement between the organisation and the employee.These mutual expectations regarding relationships between both parties constitute part of a psychological contract (Tekleab, Takevchi & Taylor, 2005). Psychological contract though unwritten sets the dynamics for the relationship and defines the comprehensive expediency of the work to be done (Coyle-Shapiro & Parzefall, 2008).

Most relationships are made up of a certain amount of give and take, but this does not mean that they are always equal. In the ideal situation of psychological contract, the relationship of give and take between organisation and employee is equal and corresponds perfectly. However, this is not the practicality in real situation (Coyle-Shapiro & Parzefall, 2008). In real situation of psychological contract the relationship of give and take between organisation and employee is not equal. the standards that are used to evaluate costs and benefits vary over time and differ with persons. Invariably, psychological contract is not static because either party's expectation can change as can either party's ability or willingness to continue meeting expectations. The inability to meet expectation may lead to dissatisfaction or frustration. The satisfaction of a desired

objective is part of the psychological contract. When the employee's expectation of achieving the desired objective is not matched with the opportunity to achieve such desired objective by the organisation; the psychological contract is violated and frustration, that is disatisfaction sets in.

2.3 Frustration-Induced Behaviour Theory

Frustration-induced behaviour theory also uses the assumption of social exchange theory to engage in discourse of human relationships. According to Mullins (2005) if a person's expectation is hindered before achieving an objective, there are two possible sets of reactions which are possible. They are constructive behaviour and frustration. The first reaction to hindered expectation which is constructive behaviour is a positive response to the hinderance of a desired objective and can take two main forms which are problem solving or restructuring. While problem solving is an act of removing or repairing the barrier, restructuring is opting for an alternative objective. The second reaction to hindered expectation is frustration. Frustration refers to dissatisfaction; frustration is a negative response to the hinderance of a desired objective which can result in defensive forms of behavior.

Frustration can lead to aggression, regression, fixation and withdrawal. These four defensive forms of behaviour are not totally unrelated because there can be mix combination of aggression, regression and fixation (Mullins, 2005). Aggression is a physical or verbal attack against some person or object which is perceived as the source of frustration. Regression is relapse or returning to a childish form of behavior such as crying. Fixation is obsession, persevering in a form of behavior which has no additional worth nor positive response outcome such as the inability to accept change and new ideas. Withdrawal is renunciation, giving up or resignation such as late coming, absenteeism, or leaving the job altogether. According to Mullins (2005), employee's response to dissatisfaction/frustration depends intensity of need, the level of the employee's connection to the desired objective, the strength of inspiration, perceived nature of the hinderance. Thus, healthcare provider experience poor mental health and withdraws from the organisation.

2.4 Empirical Literature

Various studies on burden of care of care givers showed significant association with health status (Hekmatpou, Elham & Mardanian, 2019); high risk of developing mental disorders (BetülKızılırmak & LeylaKüçük, 2016) and correlation to mental illness (Ebrahim, Al-Attar, Gabra, *et al.* 2020). Others studies on burden of care of nurses revealed significant relationship with mental disorder (Yildizhan & Bal, 2018) knowledge and attitude (Kim & Han, 2019). Yildizhan & Bal (2018) specified that 30% of the professional care giving staff was suffering from one form of mental disorder.

Researchers (Chan & Chan, 2004) found that work environment influenced emotional health in health care setting among healthcare workers (nurses and doctors). Goetzel et al. 2018) experts in the field of workplace wellness, occupational health and safety, indicated that work environment affected psychological wellness of doctors and nurses in an overall emergency clinic setting. They suggested that organisations should build up a psychological wellness, and leader preparing in the work environment. Some researchers (Ferrie, Head, Shipley, Vahtera, Marmot, & Kivimaki, 2006) showed that exposure to psychosocial workplace hazards increase the risk of development or aggravation of mental health problems.

3. Methodology

3.1. Research Design

This study utilised descriptive survey research design. The study took place at the Federal Neuro-Psychiatric Hospital, Yaba - Lagos, Nigeria. The independent variables are burden of care and work environment while the dependent variable is mental health status.

3.2. Participants

The population of this study is healthcare providers comprising nurses, doctors, psychologists, physiotherapists, social workers, and pharmacists at the Federal Neuro-Psychiatric Hospital, Yaba - Lagos, Nigeria. A total of 210 participants selected through purposive sampling method from the Federal Neuro-Psychiatric Hospital, Yaba - Lagos, Nigeria.

3.3. Research Instruments

The data collection was achieved by using a questionnaire booklet which comprises three psychological tests and a section for demographic data. The psychological tests thus stated:

3.3.1. Zarit Burden Interview

Burden of care was measured by Zarit Burden Interview, made up of 22-itew scale developed by Zarit Reveer and Bach-Peterson (1980). Participants were asked to respond to the impact of the burden of patient. The response format is Never (0), Rarely (1), Sometimes (2), Quite Frequently (3) or Nearly Always (4) form. The Zarit Burden Interview response range from 1-20 measuring little or no burden, 21-40 measuring mild to moderate burden, 41-60 measuring moderate to severe burden and 61-88 measuring severe burden. The Zarit Burden Interview has Cronbach's alpha was 0.921.

3.3.2. Work Environment Scale

The Work Environment Scale developed by Friis (1981) was used for the measurement of psychosocial environment of work setting. This scale consists of 10-item used for assessing participant's general view and opinion of the quality of their work environment and the satisfaction they derive from it in terms of workload, conflict, self-realisation, and nervousness. The WES10 was adapted for use in this study to measure how the participants felt about working in the medical environment. Its ten items are scored across four subscales; self-realisation, nervousness, conflict, and workload. The self-realisation subscale focuses on personal growth, support and achievement value, the workload and conflict subscales focus on the work environment, and the Nervousness subscale aims to measure how nervous the staff feels in their organisation (Rossberg, Eiring, and Friis, 2004). The response format is a 5-point Likert-type scale, from 0 = "not at all" to 4 = "to a very large extent". The higher the score, the higher the degree of job satisfaction. Rossberg et al., 2004) reported Cronbach's alpha for the four subscales as: Workload: 0.84, Conflict: 0.69, Self Realisation: 0.85 and Nervousness: 0.66.

3.3.3. Awaritefe Psychological Index

The Awaritefe Psychological Index by Awaritefe (1982) was used for the measurement of mental health. It measures general psychopathology within the past seven days. It consists of seven subscales (sleep disorder, intellect disorder, heat disorder, mood disorder, head region disorder, alimentary track disorder and general somatic disorders) and it consists of 76 items, with two items

in the test as lie scales. The participant is supposed to give a "True" or "False" or "?" (which signifies maybe or not sure) response for each item. The higher the total scores the higher the level of psychopathology suffered by the participant and the lower the scores, the better the mental health status. The Awaritefe Psychological Index (Form X) has a reliability coefficient cronbach of 0.87

3.4. Procedure

Copies of questionnaire were distributed to healthcare providers who are participants in their various departments in the hospital. A total of 210 questionnaires correctly filled were collected from the participants for further analysis. This survey took place during the COVID-19 pandemic in Nigeria.

3.5. Ethical Consideration

The Health Research Ethics Committee (HREC) of the hospital gave approval to carry out this study among the population samples. Participants were assured of confidentiality and participantion was voluntary. The information provided was for research purpose only.

4. Results and Discussions

4.1 Demographic Characteristics of the Participants

A total of 210 participants who are healthcare providers in Federal Neuro-Psychiatric Hospital, Yaba - Lagos, Nigeria participated in the survey. The demographic distribution of the participants shows that 91 (45.3%) of the participants are male while 110 (54.7%) are female, furthermore, distribution by age categories shows that 36 (17.9%) were between ages 20-30 years old, 119(59.2%) were within the age category of 31-40 years, while 46 (22.9%) were between the age categories of 41-50 years. This revealed that most of the participants are female and they fall above the age of 31years. Married participants are 139 (69.1%), single participants are 54(26.9%) and divorced 8(4%), indicating that most of the participants are married. The participants are Healthcare providers encompasses Psychologist 14(7%), Nurses 102(50.7%), Doctors 43 (21.4%), Physiotherapist 5(2.5%), Social worker 18(9%) and Pharmacist 19(9.5%), This shows that most of the participants are Nurses.

4.2. Hypothesis One

Burden of care will significantly influence mental health status of health care providers.

Table 1: The regression analysis of Burden of care on Mental health status among Health care providers

MODEL	Sum of Squares	Df	Mean Sq	F	Pvalue	R	R2	Adj R2
Regression	32.907	1	32.907	40.098	.000	.410	.168	.164
Residual	163.312	199	.821					
Total	196.219	200						

Table 1 reveals a statistically significant F-ratio value at (F (1.199) = 40.098, P<.05) this implies that burden of care significantly influence mental health status of health care providers. The result in Table 1 shows R square (0.168), indicating that the burden of care account for 16.8% of the total variation in mental health status among health care providers. Hypothesis one therefore which

states that burden of care will significantly influence mental health status of health care providers is accepted.

4.3 Hypothesis Two

Work environment will significantly predict the mental health status of health care providers

Table 2: Regression analysis of Work environment on Mental health status among Health care providers

MODEL	Sum of Squares	Df	Mean Sq	F	P-value	R	R2	Adj R2
Regression	89.874	1	89.874	162.169	.000	.670	.449	.446
Residual	110.286	199	.554					
Total	200.159	200						

Table 2 reveals a statistically significant F-ratio value at (F (1,199) = 162.169, P<.05) this implies that work environment significantly influence mental health status among health care providers. The result in Table 2 shows R square (.449), indicating that the work environment account for 44.9% of the total variation in mental health status among health care providers. Hypothesis two therefore which states that work environment will significantly predict mental health status of health care providers is accepted.

4.4. Discussion

The finding of hypothesis one revealed that burden of care significantly influence mental health status of health care providers. This finding is consistent with researchers (Hekmatpou, Elham & Mardanian, 2019) that showed significant association of burden of care with health status of care givers. (BetülKızılırmak & LeylaKüçük, 2016) that indicated high risk of developing mental disorders due to burden of care. (Ebrahim, Al-Attar, Gabra, *et al.* 2020) that revealed correlation of burden of care to mental illness and (Yildizhan & Bal, 2018) that discovered significant relationship of burden of care with mental disorder in nurses. Burden of care covers the physical, mental, social, and financial challenges experienced by health care providers. Burden of care is shown to lead to the deterioration of the health of the healthcare providers. Applying psychological contract theory, health care providers feel an extraordinary burden of care, they begin to feel pressure which makes them irritated with their positions.

Psychological contract sets the dynamics for the relationship between healthcare provider and the ogranisation and also defines the expected work to be done by healthcare provider in the organisation. The mental health of healthcare provider deteriorates making either party's ability or willingness to continue meeting expectations to change, the psychological contract is violated, expectation is hindered and frustration sets in. Furthermore, frustration induced behaviour theory suggest that frustration results in defensive forms of behavior in which case the healthcare provider eventually reverts to withdrawal. Withdrawal by way of resignation, late coming, absenteeism, or totally leaving the job. Reduction in work effort or leaving the job results in scarcity of healthcare provider (the workforce), affects healthcare systems and generates significant economic cost (Shanafelt, West, Sloan, Novotny & Poland, 2009).

The finding of hypothesis two revealed that work environment significantly predicted mental health status of health care providers. This finding is coherent with researchers (Chan & Chan,

2004) that indicated work environment influenced emotional health in health care setting among healthcare workers (nurses and doctors). Goetzel et al. 2018) that revealed work environment affected psychological wellness of doctors and nurses in emergency clinic setting. (Ferrie, Head, Shipley, Vahtera, Marmot, & Kivimaki, 2006) that showed exposure to psychosocial workplace hazards increase the risk of development or aggravation of mental health problems. The organisation's provision of a pleasant work environment is in exchange for employee loyalty and work effort.

Relationship between employee and the organisation based on social exchange theory is as a result of a reasonable and rational exchange process. Remarkably, the exchange process is reciprocal between employee and organisation (Akinbobola & Zamani, 2018; West & Turner, 2007). Pleasant work environment is a desired objective of the healthcare provider. The satisfaction of a desired objective is part of the psychological contract. Whenever, the healthcare provider expectation of a pleasant work environment is not matched with the provision of a pleasant work environment by the organisation; the psychological contract is violated and disatisfaction sets in for the healthcare provider. Healthcare provider exposure to a poor work environment makes one to feel pressure of disappointment with the position and dissatisfaction. Besides, the dissatisfaction prompts the disintegration of the healthcare provider's mental health.

5. Conclusion and Recommendations

5.1 Conclusion

This study investigated some factors that affect the mental health status of health care providers. It has been established that burden of care and work environment affect the mental health status of healthcare providers. This study is conclusive on the ground that if pleasant work environment and burden of care relief is put in place, mental health status among health care providers will be reasonable and balanced. Healthcare providers in health institution play vital roles in the delivery of comprehensive and quality healthcare services to patients.

In the new normal, mental health of healthcare providers is essential to healthcare and the economy of the nation, especially during COVID-19 pandemic. Especially during lockdown, healthcare professionals were very much at work. The Federal Government of Nigeria enforced lockdown on March 30, 2020, for three states including Lagos; Lagos being the epicenter and the economic hub of the nation. The lockdown was extended to other states in the country (Games, 2020). The lockdown brought about national and global economic slowdown.

The findings of this study has implication for the poor mental health status of healthcare providers brought about by burden of care and work environment. Expressly as there is cost for treatment of healthcare providers with mental disorder; cost for withdrawal of the healthcare provider on productivity and cost to replace healthcare provider that eventual leaves the organisation. The cost of mental disorder is far higher than that of good and balanced mental health status.

Health is an important factor to productivity and economic development. A healthy population means higher productivity. Healthcare providers are contributing to healthy population and productivity. To be effective in providing healthcare, healthcare providers must have good mental health status. Particularly, healthcare providers in Neuro psychiatric hospitals

Contribution of expenditure on health is a factor to economic development. Due mainly to COVID-19, the cost of health skyrocketed and economic watchers envisaged recession if the nation's economy is not properly managed. Nigeria's economy was not prepared for economic shocks of the COVID-19 lockdown, it briefly went in and out of recession in 2020.

5.2. Recommendations

Based on the findings and conclusion discussed, the following recommendations are made. The concept of burden of care and work environment on the mental health status of health care providers should not be disregarded, but rather, should be observed in all hospitals that want to promote balaced mental health for workers. There should be psychological training for healthcare providers to handle burden of care. Improved psychosocial work environment in the organisation. Policy for improved mental health and health for healthcare providers and all health workers. In place should be an organisational structure to accommodate pleasant work environment for adequate mental health status of healthcare providers. Federal Government of Nigeria should invest in health and mental health that will lead to an increase in labour productivity.

Protection of mental health of healthcare professionals and subsequent increase in balanced mental health status of the population. There should be research on organisational-level interventions to promote mental health particularly in hospitals with strategies to improve the work environment. Government should pay less reliance on the oil sector bearing in mind that the oil prices dropped during the pandemic. Government should practice inclusive economy to boost the non-oil sector of the economy. Government to ensure economy that is sustainable and consistent with positive growth of national economy. A national economy that is resilient to future economic shocks or other contingencies.

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