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A Comparative Analysis of the Financial Performance of Health Care Institutions in Nigeria in the Covid-19 and Post Covid-19 Era: A Study of Edo Specialist Hospital, Benin City, Edo State.

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Abstract
This study examines the financial performance of health care institutions in Nigeria during covid-19 and post covid-19 era in Nigeria with emphasis on Edo Specialist Hospital, Benin City. Areas of focused include expenditure on clinical, drugs and consumables and internally generated revenue of the hospital, twenty four months into covid-19 and 24 months after covid-19. The above established the basis of the study's objectives and hypotheses. The methodology of the study employed the use of secondary data collated from the hospital records unit and adopted the Pearson Product Moment Correlation (PPMC) as technique of analysis to determine the level of association of the hospital's performance in the two periods under study. The results of the study show that expenditure on clinical, drugs and consumables are closely associated in the two periods, with strong and significant relationship, while internally generated revenue in the two periods are not closely associated with an insignificant relationship. Recommendations were however made on ways of improving performance of the hospital and among such recommendations include the need for the hospital management to closely monitor the use as well as the cost of materials with high usage during emergencies, and in order to match revenue with rising expenses the hospital management is advised to solicit for donations and support from private and public organizations as well as high net worth individuals, among others.

Keywords: Financial Performance; Healthcare Institutions; Covid-19 and Post Covid-19 Era; Edo Specialist Hospital; Nigeria.

Introduction

A fearsome health calamity- the novel coronavirus of 2019, also known as the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) struck the world and created havoc with its rapid spread. The infection originated from an unidentified reservoir (suspected bats) in the Wuhan City, China in December 2019. With its ease of spread by infected droplets and through inhalation, the disease quickly spread across borders and caused several severe health cases and deaths. Following the above, the World Health Organisation declared it a public health emergency of International concern (PHEIC) on 30th January 2020 and global pandemic on 11th March 2020 (WHO, 2022).

In 2020, access to health care services declined significantly throughout the world compared to 2019. Nicola, Alsafi & Sohrabi (2020), attribute this unprecedented decline in patient attendance to challenges facing both medical facilities and the patient community. For patients, the fear of contracting COVID-19 from their visit was the most cited reason for not seeking medical care. The inability to reach health care facilities due to disruptions in public transportation and stay-at-home orders was also a prominent challenge for patients looking to access health care, a problem that has been more relevant for urban residents (Nicola, Alsafi & Sohrabi, 2024). Therefore, the COVID-19 pandemic presents multifaceted challenges to many healthcare programs: from reduced access to healthcare services including testing, treatment, and

care support services, to structural impacts on drug stock outs, resource shortages, and malnutrition. For medical facilities, the focus on COVID-19 reduced access to standard health care services overall, as some facilities either reduced or stopped offering some standard medical services or were overwhelmed with treating COVID-19 patients presenting acute symptoms of respiratory infection. While noting that the reduction in overall services is detrimental to all patients' well-being. The complications over time have been said to worsen based on the health status of the individual (Nicola, Alsafi & Sohrabi, 2024).

In Nigeria, the first case of COVID-19 was confirmed in Infectious Disease Centre, Yaba, Lagos State, Nigeria on the 27th February, 2020. An Italian citizen arrived at the Murtala Muhammed International Airport, Lagos at 10:00 p.m. on 24th February, 2020 on-board a Turkish airline from Milan, Italy (Onyeji, 2020). Similarly, Nigeria registered her first fatality, a 67-year-old male returnee from the United Kingdom who already had underlying medical issues that were been managed before his death. The death occurred at the Federal Capital Territory, Abuja (Nigeria Centre for Disease and Control, 2020).

In Nigeria, the Federal Government has reacted to the outbreak of COVID-19 by signing into law, the COVID-19 Regulations further to the Quarantine Act Cap Q2 LFN 2004 (Quarantine Act). Before the regulations, the Federal government had closed all borders. Also, at the declaration of COVID-19 as a pandemic by the World Health Organisation (WHO), some State Governments had, as well as dealing with the health issues, closed schools and restricted gatherings to a limited number, whilst some organisations had instructed their employees to stay home. The Federal Government responded with the authorization of the closure of all non-essential services (businesses and industries) and restricted movement of people in Lagos State, Ogun State and the Federal Capital Territory, Abuja, on 29th March, 2020. Most State Governments restricted public gathering and there were restrictions on Inter-state movement. The Federal Government later authorized the gradual easing of lockdown in the previously restricted states on the 4th May, 2020 (Mashige, et al, 2025).

The pandemic of COVID 19 presented a unique challenge to hospitals and healthcare systems across the country that struggled to function as operating costs increased with new protocols, planning, operating space, supplies, and etc (Mashige et al., 2025). However, the post Covid era has been a different ball game entirely when hospital operations returned to normalcy, compare to the abnormal situations experienced during the Covid era when several healthcare organizations lack the liquid assets to cushion the financial blows that resulted from preparing and mobilizing resources due to the pandemic. Therefore, this study compares the financial performance of health care institutions during Covid era and the post covid era in Nigeria, including their internally revenue generating capacity, with particular reference to Edo Specialist Hospital Benin City.

Objectives of the Study

The main objective of this study is to assess the financial performance of health care institutions in Nigeria during covid-19 and post covid-19 era in Nigeria with emphasis on Edo Specialist Hospital, Benin City. The specific objectives of the study are as follows:

i. To assess the expenditure pattern of COVID-19 and post COVID-19 era in Edo Specialist Hospital, Benin City.

ii. To ascertain the level of internally generated revenue during and post COVID-19 era in Edo Specialist Hospital, Benin City.

Literature Review
Conceptual Review
Concept of Covid-19

COVID-19 Pandemic Coronavirus tag COVID-19 according to Ozili & Arun (2020) is a novel strain from Severe Acute Respiratory Syndrome (SARS) species. COVID-19 pandemic was first detected in Wuham, the capital of Hubei, China in December 2019. It was pronounced as pandemic by World Health Organisation (WHO) on March 11, 2020. (McKibbin and Fernando, 2020) opined that Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment. However, some will become seriously ill and require medical attention. COVID-19 is said to be caused by SARS-COV-2 virus and this starts with a symptoms of high fever, dry coughing, sore throat or diarrhoea and shortness of breath (Thomas, Webster, Petherick, Phillips and Kira, 2020). The pandemic has become a global phenomenon which started spreading from countries to countries as an invisible enemy as it works against the economy, social and psychological behaviour of citizens in a nation. It affects all aspects of human life ranging from religious, social, cultural, sporting, career and educational activities (Thomas, Webster, Petherick, Phillips & Kira, 2020).

The symptoms of COVID-19 are variable, but often include fever, cough, headache, fatigue, breathing difficulties, loss of smell, and loss of taste (Theodoratou, 2021). Symptoms may begin one to fourteen days after exposure to the virus. At least a third of people who are infected do not develop noticeable symptoms (Islam, 2020). Study from Johns Hopkins University (2022), shows that 81% of people who develop symptoms noticeable enough to be classed as patients, develop mild to moderate symptoms, while 14% develop severe symptoms (dyspnea, hypoxia, or more than 50% lung involvement on imaging), and 5% develop critical symptoms (respiratory failure, shock, or multiorgan dysfunction). Older people are at a higher risk of developing severe symptoms. Some people continue to experience a range of effects (long COVID) for months after recovery, and damage to organs has been observed (Islam, 2021).

COVID-19 transmits when people breathe in air contaminated by droplets and small airborne particles containing the virus. The risk of breathing these in is highest when people are in close proximity, but they can be inhaled over longer distances, particularly indoors (Page, Hinshaw, McKay, 2021). Transmission can also occur if splashed or sprayed with contaminated fluids in the eyes, nose or mouth, and, rarely, via contaminated surfaces. People remain contagious for up to 20 days, and can spread the virus even if they do not develop symptoms (Zimmer, 2021).Several COVID-19 testing methods have been developed to diagnose the disease. The standard diagnostic method is by detection of the virus's nucleic acid by real-time reverse transcription polymerase chain reaction, transcription-mediated amplification (TMA), or by reverse transcription loop-mediated isothermal amplification (RT-LAMP) from a nasopharyngeal swab(Page, Hinshaw, McKay, 2021).However, several COVID-19 vaccines have been approved and distributed in various countries, which have initiated mass vaccination

campaigns (Theodoratou, 2021). Other preventive measures include physical or social distancing, quarantining, ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. The use of face masks or coverings has been recommended in public settings to minimize the risk of transmission (Islam, 2021).

During the initial outbreak in Wuhan, the virus and disease were commonly referred to as "coronavirus" and "Wuhan coronavirus" with the disease sometimes called "Wuhan pneumonia" (Page, Hinshaw, McKay, 2021). In the past, many diseases have been named after geographical locations, such as the Spanish flu, Middle East respiratory syndrome, and Zika virus (Page, Hinshaw, McKay, 2021). In January 2020, the World Health Organization (WHO) recommended 2019-nCoV and 2019-nCoV acute respiratory disease as interim names for the virus and disease per 2015 guidance and international guidelines against using geographical locations or groups of people in disease and virus names to prevent social stigma (Islam, 2021). The official names COVID-19 and SARS-CoV-2 were issued by the WHO on 11 February 2020. The Director-General, Tedros Adhanom explained that CO stands for *corona*, VI for *virus*, D for *disease*, and 19 for 2019, the year in which the outbreak was first identified (Saniasiaya and Islam,2021). The WHO additionally and consequently uses "the COVID-19 virus" and "the virus responsible for COVID-19" in Public Communications.

The Post Covid-19 Era

The post-COVID-19 era has been regarded as the time period that follows the global health and economic crisis of the coronavirus pandemic, marked by remote work adoption, digital transformation, and healthcare system reforms. It represents a permanent shift in how society handles public health, daily commerce, and workplace structure. (Adewumi, 2025). Post-COVID-19 era signals the epoch that arises after the global health and socioeconomic crisis of the COVID-19 pandemic that accelerates the developments. The post-COVID era is the time period following the acute global health crisis of the COVID-19 pandemic, characterized by economic recovery, scaled-back public health measures, and permanent societal shifts

Since over five years after the onset of the COVID-19 pandemic, the world continues to grapple with its long-term consequences, particularly in the public health sector, which faced significant disruptions and transformations (Adewumi et al, 2025). Corona viruses are frequent ribonucleic acid viruses and belong to the Coronaviridae family and are largely responsible for respiratory and, at other times, digestive infections in humans (Bulus, 2024). COVID-19 spread gradually in the world and has thus, became a global pandemic, triggering a health crisis (WHO, 2020). This pandemic affected Public Health systems as it represented a global health emergency that brought about exposure to the weaknesses in the structures of healthcare workforces all over the world (Balasubramanian et al, 2025).

In March 2020, the WHO officially declared the COVID-19 outbreak a pandemic; similarly in May 2023, the WHO declared an end to the public health emergency of international concern (WHO, 2023). As a result, occupational health and safety societies and authorities published guidance to help businesses respond to challenges related to the pandemic, urging all employers to develop an emergency preparedness plan, infectious disease control and prevention protocols, Employee Assistance Programs (EAP) to address mental health issues and respond to extended absenteeism and shifting patterns of commerce. Many organizations either failed or

continue to face challenges implementing published guidance due to lack of the technical knowledge and limited access to related professionals. This has created more job opportunities around the formation and implementation of such guidance, specifically in the fields of risk and quality management, health and safety, and for those with more complex operations, change and transformation management (Awosusi et al., 2023).

Other solutions such as Dashboards for logistic management systems, Robots for disinfection and medications or meals delivery and AI employed to provide insights into complex questions are getting more attractive and may create a major shift at the provision of healthcare services. Given their role at the forefront of the battle against COVID-19 pandemic. The COVID-19 pandemic has overwhelmed the world and continues to challenge governments, organizations and individuals equally. The most recent scientific data suggest that the corona virus is more likely to persist for at least few years in form of scattered outbreaks (Essien, 2024).

Hospital Performance

Arriving at and agreeing on statements that aptly defined hospital and performance can be difficult. Any definition of a hospital (or performance) will encompass the minimum characteristics or features that distinctly identify something as a hospital (or performance), but do not apply to any thing that does not possess such features. Of course, since they already exist, rather than being stipulative, when we define hospital or performance, either statement ought to be reportive i.e. connotes how the word/notion is truly used or what hospital or performance actually is. WHO (2022), indicated some guiding elements, most of which had been previously employed by WHO for its World Health Reports. So far, within the WHO Hospital Performance Project. A hospital has been defined as an organized effort to provide a specific set of health care services, usually located in one or several buildings and related to specialized cure (diagnosis and treatment) and care (as opposed to primary care) with the input of health professionals, technologies, and facilities aimed at meeting patient needs (WHO, 2022).

On the other hand, performance refers to how and to what extent persons, institutions, or systems carry out their defined functions, meet core objectives and achieve set-out targets in a balanced way and within a stated time-frame (Arah, Thomas & Nick, 2023). A satisfactory level of hospital performance is the maintenance of a state of functioning that corresponds to societal, patient and professional norms. High hospital performance should be based on professional competences in application of present knowledge, available technologies and resources, efficiency in the use of resources; minimal risk to the patient, centralization and satisfaction of the patient and optimal contribution to health outcomes. Within the health care environment, high hospital performance should further address the responsiveness to community needs and demands the integration of services in the overall delivery system, and commitment to health promotion. High hospital performance should be assessed in relation to the availability of hospital services to all patients irrespective of physical, cultural, social, demographic and economic barriers (Gover, Harper & Langton, 2020).

Theoretical Framework

A theoretical framework derived from resource dependence theory (RDT) guides our research. This theory provides useful conceptual tools for understanding organisational responses to financial challenges (Pfeffer & Salancik, 1978; Aldrich & Pfeffer, 1976; Davis & Cobb, 2009). It also helps to explain how the organisational environment influences revenue generation strategies and activities in Hospitals. The theory assumes an active role for individual Hospitals in their struggle for survival (Aldrich, 1979; Pfeffer & Salancik, 1978; Scott, 1992b). This implies that Hospitals may actively influence their environment. From the resource dependence perspective, Hospitals can address resource dependence difficulties related to state funding issues by competing for resources from alternative (including private) sources (Clark, 1998; Sporn, 1999; Leslie and Slaughter, 1997; Wangenge-Ouma, 2011). Using RDT as a lens, we attempt to identify enablers for and barrier to revenue generation at Hospitals. Other theoretical bases of the study include the contingency theory associated with Fiedler (1964), and the systems theory liked to Bertalanffy (1956), Flood and Jackson (1995) and Beer (1984).

The fundamental assumption of this perspective is that organisations require resources to survive (Pfeffer & Salancik, 1978) and ultimately organisational actions are directed at securing survival: "The key to organizational survival is the ability to acquire and maintain resources" (Pfeffer & Salancik, 1978). For its survival, the organisation must engage in an exchange with its environment. The environment of an organisation contains scarce and valued resources essential to organizational survival. In order to acquire an uninterrupted flow of resources from the environment, the focal organisation is expected to offer acceptable products or services to the organisations it depends on. This mutual benefit creates dependencies between the organisation and its environment (Johnson, 1995). The organisation's environment encompasses different people, groups, organisations or regulations that influence organisational survival. This means that an organisation often faces conflicting demands from the environment. The challenge to the organisation is which groups to attend to and which to ignore. In short, RDT stress the dependency relations between organisations and their environment, power positions of different organisations, and strategic alternatives for those in organisational leadership (Pfeffer & Salancik, 1978).

Empirical Review

Mashige, et al (2021) examine the economic, health and physical impacts of covid-19 pandemic in sub-Saharan Africa. A total of 1970 respondents took part in the web-based cross-sectional survey during the mandatory lockdown period. The dependent variables were health (COVID-19 infection, hospitalisation), socioeconomic (lost job, closed down business) and physical impacts (separated from family) of COVID-19. Univariate and bivariate logistic regression analyses were used to explore the factors associated with each of the dependent variables by the four sub-regions (Southern, Western, Central and East Africa). The results indicate an impact of COVID-19 pandemic with significant regional variations ($p < 0.0005$, higher proportion were East 36.2% and Southern Africans 30.3%) but no gender ($p = 0.334$) and age group variations ($p > 0.05$). Among Central African respondents, more men than women lost their businesses (45.7% versus 14.3%, $p = 0.002$) and contracted COVID-19 infections (40.0% versus 18.2%, $p = 0.024$) during the study period. Multivariable analysis

revealed that respondents from East (adjusted odds ratio (AOR) 1.95, 95% confidence interval (CI): 1.42– 2.69), Southern (AOR 1.46, 95% CI: 1.09– 1.96) and Central Africa (AOR 1.47, 95% CI: 1.06– 2.03) reported significantly higher impact of COVID-19. Those who reported family separation during the lockdown were more likely to be older participants (39– 48 years, AOR 2.48, 95% CI: 1.11– 5.57). The study therefore concluded that one in four SSA respondents, mostly East and Southern Africans, were adversely affected by the COVID-19 pandemic during the lockdown. Interventions in high-risk populations are needed to reduce the health, socioeconomic and gender disparities in the impacts of COVID-19.

Hayatuddin, Ahmed, Muhammad, Umar, & Bashir (2020), analyze the COVID-19 lockdown effect on economic activities in Nigeria using a quantitative research approach which entails systematic evaluation of individuals' behavior towards an unprecedented economic shock applying a systematic random sample and a well-structured survey questionnaire. The results indicated that most socio-economic challenges including job loss, increase social vices, rise in poverty level, fall in economic activities, as well as fall in the level of GDP faced by individuals was as a result of the lockdown. The study recommends that lifting of lockdown would be the best action for the government to tackle socio-economic resilience. The study also revealed that both public and individuals need to establish democratic preferences, and trust on health professionals or experts. Further, the government should decide on effective measures needed to contain the continuous spread of the virus especially through the development of research based and healthcare institutions.

Mohammad, Mehdi, and Hassan(2020), examine the relationship between globalization, coronavirus disease 2019 (COVID-19) cases, and associated deaths in more than 100 countries. The ordinary least squares multivariate regressions employed for the study shows that countries with higher levels of socio-economic globalization are exposed more to COVID-19 outbreak. Nevertheless, globalization cannot explain cross-country differences in COVID-19 confirmed deaths. The fatalities of coronavirus are mostly explained by cross-country variation in health infrastructures (e.g., share of out of pocket spending on health per capita and the number of hospital beds) and demographic structure (e.g., share of population beyond 65 years old in total population) of countries. The least squares results are robust to controlling outliers and regional dummies. The finding provides the first empirical insight on the robust determinants of COVID-19 outbreak and its human costs across countries.

Farid & Ede (2022), examine the financial performance of hospitals during COVID-19 pandemic in Indonesia using SWOT analysis in hospitals with profitability ratios (Strength, Weakness, Opportunity, and Threat).The study include\ research for the 2020 period, types of national and international articles published in the field of public and hospital health connected to the COVID-19 pandemic relating to infirmary financial strategies with a SWOT analysis, and also conducted a search, using a multi-method strategy between January 2020 and December 2020. The study concluded that several strategies are needed by the hospitals if they must survive the pandemic, namely a change in leadership style in terms of financial management, by not only focusing onCOVID-19 but by improving essential services for to handle other diseases using an integrated health system management.

Satiani, Zigrang, & Bailey–Wheaton, (2020), examine the impact of COVID 19 on hospital finances in Mexico using the simple correlation analysis to determine the revenue and expenditure relationship. The result shows that revenue was no match for the hospitals expenditure. Hospitals' cash reserves were being depleted due to increased operations costs and reduced revenue. Government funding, such as the CARES Act provided by the sanction of the Department of Health and Human Services Office, will only help keep the doors open and not create profitability for the hospitals. Glenn, Melnick & Maerki (2021), investigated the financial impact of COVID-19 on California Hospitals using regression analysis on hospital revenue data from the office of state wide health planning and development. The result of the study shows the significant declines in inpatient and outpatient visit volume have decreased net revenue substantially in the hospitals. The study revealed an immediate 50% reduction in hospital net revenue, followed by gradual improvements as shelter-in-place orders begin to loosen.

Methodology

Data Collection Method and Sources

Time series or secondary data were solicited at the Edo Specialist Hospital, Benin City for the purpose of this study. Data were sought for 24 months into COVID-19 and 24 months after COVID-19 (March 2020 to March 2022 and March 2022 to March 2024 respectively) in the areas of expenditure on clinical and drug supplies and internal revenue generation.

Specification of the Model/ Formula

The Pearson Product Moment Correlation (PPMC) model was adopted to analyze the extent of the relationship between the variables in the COVID and post COVID-19 period in each of the hypotheses stated in this study. The PPMC formula for the study is indicated below:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2]\,[N\sum Y^2 - (\sum Y)^2]}}$$

Where: r = The correlation coefficient

N = Number of observations

Y = Pre COVID-19 observations

X = COVID-19 observations

$\sum$ = Summationsign

$$t_{cal} = r\ \frac{\sqrt{N-2}}{\sqrt{1-r^2}}$$

Degree of freedom = N-2

Analytical Technique

The Pearson Product Moment Correlation was adopted to analyze each of the individual hypothesis to determine the extent of the correlation between the variables in the during and after the COVID-19 era. The student t statistic was applied to determine if the relationship that exists between the variables in the COVID-19 and post COVID era were significant or not using the appropriate degree of freedom. The t tests were conducted at 95% confidence interval, at 0.05 significant levels. The degrees of freedom were determined appropriately. To determine whether the relationship between the two periods are actually significant or not, the following

are taken into consideration: if $t_{cal} \geq t_{tab}$ reject H_o (The null hypothesis) and accept H_A (The alternative) which implies a significant relationship, otherwise accept H_o, which implies no significant relationship.

Presentation and Analysis of Data

Presentation and Analysis of Data During and After Covid19

The correlation results obtained on the hospital expenditure on clinical and medical consumables as well as the internally generated revenue 24 months into and 24 months after COVID19 are displayed and discussed in this section.

Table 1: Data Used for the Analysis on the hospital expenditure on Clinical and Drugs/Consumables during and after the COVID-19 Pandemic are Presented in the table below

S/N	Y (N Millions) **Post COVID-19 Era**	X (₦ Millions) **COVID-19 Era**
1	2.0	6.5
2	65.0	88.2
3	35.4	27.3
4	13.9	20.2
5	4.8	14.3
6	32.3	22.4
7	138.8	56.1
8	34.3	42.2
9	23.3	14.3
10	21.3	20.1
11	72.9	63.4
12	61.5	136.7
13	40.2	30.7
14	25.6	35.8
15	64.5	52.6
16	41.8	28.7
17	58.8	36.9
18	85.2	53.5
19	44.5	48.3
20	50.6	46.2
21	54.3	57.8
22	134.5	54.9
23	79.8	74.2
24	84.6	131.2

Source: Edo Specialist Hospital, Benin City.

Table 2: Summary of Results from Analysis of the Relationship between during and post COVID-19 expenditure on Clinical and Drugs/Consumables Usage.

Item	**Result**
Correlation coefficient (r)	0.5554
Degree of freedom	N – 2 = 22
T_{cal}	3.767
T_{tab}	1.717

Source: Data Analysis

The result shows that the coefficient of correlation of clinical and drugs/consumables expenses during and post covid-19 period to be 0.5554. The result shows that the level of association between clinical and drugs/consumables expenditures during and post covid-19 is at 56%. This implies that clinical and drugs/consumables used in between the two periods are associated, which implies that there is no much difference in the pattern of clinical and drugs/consumables expenditure in between the two periods.

Test of Hypothesis One

The null and alternative of hypotheses are stated below:

Null Hypothesis (H_o): There is no significant relationship between clinical and drugs/consumables expenditure during and after the COVID-19 pandemic

Alternative Hypothesis (H_A): There is a significant relationship between clinical and drugs/consumables used during and after the COVID-19 pandemic

The student's t tests were conducted at 95% confidence interval, at 0.05 significant levels. The degrees of freedom were determined appropriately. To determine whether the relationship between the two periods are actually significant or not, the following are taken into consideration: if $t_{cal} \geq t_{tab}$ reject H_o (The null hypothesis) and accept H_A (The alternative) which implies a significant relationship, otherwise accept H_o, which implies no significant relationship.

Degree of freedom = N – 2 = 24-2 = 22
tcal = 3.767
ttab = 1.717
t cal> t tab ie 3.767 > 1.717

Decision Rule

Since the $t_{cal}$is greater than the t_{tab}, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_A) which states that there is a significant relationship between expenditure on clinical and drugs/consumables during and after the COVID-19 pandemic is accepted.

Table 3: Data Used for the Analysis on Internally Generated Revenue of the Hospital during and the post COVID-19 Pandemic are Presented in the table below

S/N	**Y (₦ Millions) Post COVID-19 Era**	**X (₦ Millions) COVID-19 Era**
1.	52.8	72.7
2.	49.3	57.6
3.	36.5	47.5
4.	52.8	43.4
5.	22.6	60.2
6.	39.6	54.3
7.	40.0	40.1
8.	46.1	38.4
9.	52.9	27.8
10	48.9	40.7
11.	42.8	48.4
12.	44.7	75.1

13.	53.0	50.3
14.	78.9	44.5
15.	53.1	54.8
16.	56.2	41.8
17.	59.2	56.0
18.	42.8	55.9
19.	75.2	56.4
20.	58.9	38.8
21.	67.9	34.0
22.	65.2	44.9
23.	45.5	67.5
24.	71.0	67.9

Source: Edo Specialist Hospital, Benin City.

Table 4: Summary of Results from Analysis of the Relationship between Post and During COVID-19 Internally Generated Revenue of the Hospital

Item	**Result**
Correlation coefficient (r)	0.1404
Degree of freedom	N – 2 = 22
T_{cal}	0.6504
T_{tab}	1.717

Source: Data Analysis

The result shows that the coefficient of correlation of internally generated revenue in the post and during covid19 period to be 0.1404. The result demonstrates that the level of association of internally generated revenue during and after the covid-19 era is very low at 14%. This implies that the internally generated revenue of the hospital increased by 86% after the covid-19 pandemic, indicating a huge difference in internally generated revenue between the two periods.

Test of Hypothesis Two

The null and alternative of hypotheses are stated below:

Null Hypothesis (H_o): There is no significant relationship between internal revenue **generation during and after the COVID-19 pandemic.**

Alternative Hypothesis (H_A): There is a significant relationship between internal revenue generation during and after the COVID-19 pandemic.

The student's t tests were conducted at 95% confidence interval, at 0.05 significant levels. The degrees of freedom were determined appropriately. To determine whether the relationship between the two periods are actually significant or not, the following are taken into consideration: if $t_{cal} \geq t_{tab}$ reject H_o (The null hypothesis) and accept H_A (The alternative) which implies a significant relationship, otherwise accept H_o, which implies no significant relationship.

Degree of freedom = N – 2 = 24-2 = 22

$t_{cal} = 0.6504$

$t_{tab} = 1.717$

$t_{cal} < t_{tab}$ ie $0.6504 < 1.717$

Decision Rule

Since the t_{cal} is less than the t_{tab}, the alternative hypothesis (H_A) is rejected and the null hypothesis (H_0) which states that there is no significant relationship between internal revenue generation during and after the COVID-19 pandemic is accepted.

Discussion of Findings

The main focus of the study is to assess the financial performance of health care institutions in Nigeria during covid-19 and post covid-19 era in Nigeria with emphasis on Edo Specialist Hospital, Benin City. The study shows a strong association between expenditure on clinical, drugs and other consumables in the covid-19 and post covid-19 periods, which implies a strong correlation in material usage in the two periods. In the study conducted by Mashinge et al (2024), on the health and physical impact of covid-19 in Africa arrive at similar findings. Hayatuddin, Ahmed, Muhammad, Umar & Bashir (2024), arrived at similar finding in their studies.

The result of the study also indicates a weak correlation of internal revenue generated in the hospital in both periods. This transmitted to an insignificant relationship in revenue generated in both periods. This implies a significant increase in internally generated revenue in the hospital in the post covid-19 era. This could be as a result of high patients patronage and admissions after the covid-19 period.

Khullar, Bond & Schpero (2025), in their study on the financial health of United States hospitals arrived at similar finding. Also, Essien, Eneanya & Crews (2024); Saki, Ghanbari, Behzadifar, Imani-Nasab, Behzadifar & Azari (2023), arrived at similar findings

Conclusion and Recommendations

Conclusion

The study has exposed how covid-19 impacted on hospital financial performance in Nigeria with emphasison Edo Specialist Hospital, Benin City. The covid-19 pandemic did not only reduced patients' patronage, but also affected the level of internally generated income in the hospital, which drastically reduced the revenue generated by the hospital, compared to the post Covid era. However, expenditure on clinical, drugs and consumables did not decline as the hospital continued to incur huge cost of supply as the hospital had to expend huge sum of money on personal protective equipment in the covid 19 era.

Recommendations

The recommendations made in line with the findings of the study are as follows:

a. There is a need for hospital managements across Nigeria to prepare for health emergencies such as the Covid 19 pandemic, in terms of monitoring the usage as well as the cost of materials with high usage particularly personal protective gears/equipment which demand had been excessively high in the hospital in the Covid era.
b. In order to match revenue with rising expenses, the hospital management should as a matter of urgency solicit for donations and support from private and public organizations as well as

high net worth individuals. This will enable the hospital to withstand the rising level of expenditure associated with health emergencies such as the covid-19 pandemic.

c. The hospital should plan on how to segregate suspected cases in the future and other cases of ill-health. This will ensure that more patients having non-related ailments are also admitted and given due attention. This would not only increase the level of patients admission, but also the level of internally generated revenue in the hospital.

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