



RELATIONSHIP BETWEEN HOSPITALS INFECTION CONTROL PRACTICES AND PATIENTS SURGICAL OUTCOME IN PRIVATE HOSPITALS IN SOUTH-SOUTH NIGERIA

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Abstract: *The study was on 'evaluation of the relationship between hospitals infection control practices and patients surgical outcome in private hospitals in south-south Nigeria. The specific objectives were to: Evaluates how hospitals infection control practices affect patients' surgical outcome in private hospitals in South-South Nigeria. The population of the study was seven hundred and one (701) staff of nine selected hospitals in South-South Nigeria. The sample size used was the same as the population size and out of the 701 copies of the questionnaire distributed, 668 (that is, 95 percent) were returned. A descriptive research design was adopted for the study. Instrument used for data collection was the questionnaire. The data collected were analysed using the Z-Test computed with SPSS version 20. The result indicated that Hospitals infection control practices positively influenced patients' surgical outcome in private hospitals in the South-South Nigeria as reported in the probability value of $Z(95, n=701) = 5.154; p < 0.05$, the study also revealed that performance management practices do have positive effect on staff turnover in private hospitals in South-South Nigeria as reported in the probability value of $Z(95, n=701) = 5.154; p < 0.05$. The study recommended that Private hospitals should continuously and consistently improve infection control through proper waste disposal, hand washing and other infection control practices, also introduction of well-structured appraisal system in the private hospitals in the South-South Nigeria is very important and therefore recommended.*

Keywords: Private hospitals, Hospitals infection, Control practices, Patients surgical outcome.

Introduction

Hospital-centered epidemics are increasingly being reported in Nigeria. (Olakunde, 2012 and Olaitan, 2016). The 2014 Ebola epidemic in Nigeria that made international headlines took place in a hospital setting, as well as many of the outbreaks of Lassa fever that constantly flare up in hospitals throughout Nigeria, claiming the lives of patients and healthcare workers. (Mark, 2018). According to the records of the WHO, 273 cases of Lassa fever were reported from 23 states in Nigeria, between August 2015 and 17th May 2016, out of whom 149 died including four health workers that

were infected in the course of their occupational activities (Olakunde, 2012 and Olaitan, 2016). These epidemic diseases are in addition to highly infectious diseases such as HIV/AIDS and hepatitis-B, and the usual nosocomial infections that are reported in higher frequency and with greater morbidity and mortality in Nigeria and other developing countries. The World Health Organization reports that three million health workers are exposed to blood borne pathogens each year, resulting in 70,000 cases of hepatitis B, 15,000 cases of hepatitis C and 5,000 cases of HIV infections. Studies also indicate that surgical site infection (SSI), a



subset of hospital-acquired infection complicates up to 5% of all the surgical operations carried out in developed countries; and has been shown to add up to ten extra days to the stay of the patient in hospital, requires a daily \$94.31 worth of antibiotic for treatment, capable of increasing the hospital bill by £1780; and able to increase the mortality of patients by more than 177% (Mark, 2018).

Hospital-acquired infections otherwise known as nosocomial infections are infections acquired in the hospital or other health-care facilities that were not present or incubating at the time of the client's admission. It includes those infections that become symptomatic after the client is discharged as well as infections among medical personnel. Most nosocomial infections are transmitted by health-care personnel who fail to put into practice standard infection prevention measures such as hand-washing procedures or change of gloves between client contacts. Compliance on the part of HCWs including nursing and medical students with standard precautions has been recognized as being an efficient means to prevent and control HAIs Wikipedia (2018). Such measures not only protect the patient but also the HCWs and the environment. Among the standard precautions advocated, hand hygiene is considered, in itself, the most important one. Other measures include adequate use of gloves, adoption of safe practices for handling needle sticks and other sharp objects. Compliance with these standard precautions has been shown to reduce the risk of HAIs Wikipedia (2018). However, in spite of the effectiveness of these standard precautions, what reality shows us is very low compliance with these measures; poor hospital hygiene has been widely publicized including patients' concerns about safety in hospitals. This has made infection control a hot topic in clinical practice, media, and community at large. The main reason for infection control is to reduce the occurrence and transmission of infectious diseases (Mark, S., 2018). Effective hand hygiene practices in hospitals play a key role in improving patient and provider safety

and in preventing the spread of HAI. Evidence has shown that proper hand washing, which is one of the infection control measures, can reduce the transmission of pathogens to patients and the spread of antimicrobial resistance (Mark, S., 2018).

Infection control measures have been identified as capable of preventing these hospital-acquired infections AchieveIt (2013). The measures were first developed in 1987, by the US Centre for Disease Control and Prevention, in response to the HIV/AIDS pandemic but have now been expanded to include all possible hospital-acquired infections AchieveIt (2013). The measures include hand hygiene, use of personal protective equipment, needle safety, safe handling of potentially contaminated equipment or surfaces in the patient environment, respiratory hygiene (cough etiquette) and proper disposal of sharps, body fluids and other clinical waste AchieveIt (2013). The measures also include practices such as the training and retaining of healthcare workers on the infection control measures, immunisation of healthcare workers against the more prevalent, more fatal infections and the surveillance of the infectious diseases in the healthcare facility. Several studies have compared the relationship between hospitals infection control practices and patients surgical outcome in private hospitals in some developing countries, such comparative studies are sparse in Nigeria. Thus, this study seeks to evaluate the relationship between hospitals infection control practices and patients surgical outcome in private hospitals in south-south Nigeria.

Statement of the Problem

The significance of infection control in healthcare settings cannot be overemphasized as both the patients and health care workers are capable of spreading microorganism if adequate infection control measures are not strictly adhered to. In addition, healthcare is increasingly being provided outside hospitals in facilities such as nursing homes, free standing surgical and outpatient centres, emergency care clinics, and in patients' homes or during prehospital emergency care.



The importance of airborne transmission of microorganisms in the hospital setting and the risk of cross infection between patients and health care workers especially in respect of blood-borne pathogens are widely documented. Hospital-based personnel and personnel who provide healthcare outside hospital may acquire infections from or transmit infections to patients, other personnel, household members, or other community contacts. This study therefore assesses the relationship between hospitals infection control practices and patients surgical outcome in private hospitals in south-south Nigeria.

Objectives of the Study

The following specific objectives were to:

1. Evaluates how hospitals infection control practices affect patients' surgical outcome in private hospitals in South-South Nigeria.
2. To examine the effect of performance management practices on staff turnover in private hospitals in South-South Nigeria

Research Questions

The questions for the study were as follows:

1. How does hospitals infection control practices influence patients turnover outcome in private hospitals in South-South Nigeria?
2. What is the effect of performance management practices on staff turnover in private hospitals in South-South Nigeria?

Statement of Hypotheses

1. **Ho:** Hospitals infection control practices does not positively influence patients' surgical outcome in private hospitals in the South-South Nigeria.
2. **Ho:** Performance management practices do not have positive effect on staff turnover in private hospitals in South-South Nigeria

Literature Review

Evolution of Performance Management

The term performance management gained ground and became very important when organizations began to

encounter enormous competitive pressures in the market place and they sensed the need of introducing a comprehensive performance management process into their system for improving the overall productivity and performance effectiveness (Juneja, 2018)

Performance management system progressed in many phases.

“Phase One: The origin of performance management can be traced in the early 1960's when the performance appraisal systems were in practice. During this period, Annual Confidential Reports (ACR's) which was also known as Employee service Records were maintained for controlling the behaviours of the employees and these reports provided substantial information on the performance of the employees. Any negative comment or a remark in the ESR or ACR used to adversely affect the prospects of career growth of an employee. The assessments were usually done for ten traits on a five or a ten point rating scale basis. These traits were job knowledge, sincerity, dynamism, punctuality, leadership, loyalty, etc. The remarks of these reports were never communicated to the employees and strict confidentiality was maintained in the entire process. The employees used to remain in absolute darkness due to the absence of a transparent mechanism of feedback and communication. This system suffered many drawbacks.

Phase Two: This phase continued from late 1960's till early 1970's, and the key hallmark of this phase was that whatever adverse remarks were incorporated in the performance reports were communicated to the employees so that they could take corrective actions for overcoming such deficiencies. In this process of appraising the performance, the reviewing officer used to enjoy a discretionary power of overruling the ratings given by the reporting officer. The employees usually used to get a formal written communication on their identified areas of improvements if the rating for any specific trait used is to be below 33%.

Phase Three: In this phase the term ACR was replaced by performance appraisal. One of the key changes that



were introduced in this stage was that the employees were permitted to describe their accomplishments in the confidential performance reports. The employees were allowed to describe their accomplishments in the self-appraisal forms at the end of a year. Besides inclusion of the traits in the rating scale, several new components were considered by many organizations which could measure the productivity and performance of an employee in quantifiable terms such as targets achieved, etc. Certain organizations also introduced a new section on training needs in the appraisal form. However, the confidentiality element was still being maintained and the entire process continued to be control oriented instead of being development oriented. Phase Four: This phase started in mid-1970's and its origin was in India as great business tycoons like Larsen & Toubro, followed by State Bank of India and many others introduced appreciable reforms in this field.

In this phase, the appraisal process was more development driven, target based (performance based), participative and open instead of being treated as a confidential process. The system focused on performance planning, review and development of an employee by following a methodical approach.

In the entire process, the appraisee (employee) and the reporting officer mutually decide on the key result areas in the beginning of a year and reviewed it after every six months. In the review period various issues such as factors affecting the performance, training needs of an employee, newer targets and also the ratings were discussed with the appraisee in a collaborative environment.

This phase was a welcoming change in the area of performance management and many organizations introduced a new HR department for taking care of the developmental issues of the organization.

Phase Five: This phase was characterized by maturity in the approach of handling people's issues. It was more performance driven and emphasis was on development, planning and improvement. Utmost importance was

given to culture building, team appraisals and quality circles were established for assessing the improvement in the overall employee productivity." (Juneja P, 2018, Management Study Guide, Evolution of Performance Management).

Performance Appraisal and Performance Management

Juneja (2018) makes a comprehensive analysis of the differences between performance appraisal and performance management system and states that average organizations are going through various forms of transformations in order to cope with the ever changing business environmental needs and to remain going concerns. They do this by building some level of adaptability and capacity for managing change in a proactive manner. The traditional performance appraisal system could not stand in the face of these constantly changing scenarios mainly because it is a tool used by managers for the evaluation of employee and to enable the managers make some subjective judgments about the performance and behaviour of the employees against the predetermined job standards.

The main objective of the performance appraisal system was to exercise control over the activities of the employees through disciplinary actions and management of rewards and promotions. It was expected that supervisors would rate their employees on certain traits ranging between a scale of unsatisfactory to outstanding performance; however, these ratings were vulnerable to various errors like, bias, halo effect, central tendency etc. Moreover, performance appraisals are frequently carried out on annual basis for measuring the degree of accomplishment of an individual and are executed on a top down basis where the supervisors played a major role in determining the performance of an employee without necessarily involving the employees actively.

Performance appraisals look backward and focus largely on the employee's inabilities and flaws over one year period whereas it should have been looking forward instead by identifying the developmental needs



of the employees and improving them. Performance appraisals are being organized in a bureaucratic manner which suffers from unnecessary delays in decisions. They are generally narrowly focused and performed in isolation without bearing any association with the overall organizational vision or goals. One of the after effects of performance appraisal system was that it generated uncertainty between the managers and the employees on any new initiative of the Human Recourses department.

Hospital Performance

Hospital performance is about reducing how long patients stay on admission in the hospital, bed occupancy rate, patients readmission rate, mortality rate, bad debts, hospital's incidents, cost of treatment and increasing patients satisfaction, hospital operating margin and initiatives that are aimed at reducing overall healthcare costs and improving care quality across the community (Moriarty, 2018). World Health Organisation (WHO) identifies three overall goals of a health care system as being able to achieve good health for the population, ensure health services are responsive to the public and ensure fair payment systems (WHO Report, 2000). Achieve It (2013) proposes a total of sixteen (16) performance indices for hospitals which is grouped into two main categorisies: namely the Inpatient Flow and Revenue Cycle. The inpatient flow is made up of the following list:

1. Inpatient raw mortality rate
2. CMS core measures
3. Harm events per 1,000 patient days
4. Bed turnover
5. Readmission rate
6. Occupancy rate
7. Average length of stay
8. Average cost per discharge
9. Patient satisfaction

The revenue cycle is made up of the following list items. (Source: [https://www.beckershospitalreview.com/strategic-](https://www.beckershospitalreview.com/strategic-planning/16-potential-key-performance-indicators-for-hospitals.html)

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1. Total operating margin
2. Account Receivable days due to coding
3. Total Account Receivable days outstanding
4. Total Account Payable days outstanding
5. Cash receipt to bad debt
6. Claims denial rate
7. Days of cash on hand

Tyagi & Singh (2017) state that “the supremacy of hospital performance management (HPM) today is its ability to provide effective healthcare quality and to bridge the gap that usually exist between theoretical planning of organizational goals and the actual monitoring and documentation of the daily operational activities.”

Shaw (2003) posits that, hospital performance has to be defined in relation to unambiguous goals that reflect the beliefs, standards and values of various hospital stakeholders like the patients, the health care professionals, insurers, regulators and so on. He expresses that there are five (5) principal aspects of hospital performance management measurement that can be monitored regularly and these include regulatory inspection, survey of customers/consumers' experiences, third party assessments, statistical indicators and internal assessments; and incidentally, these are not readily practiced and visible within our hospitals systems; though, it is crystal clear that the measurement of these phenomenon is quite complex and difficult for a number of hospitals to implement.

Deducing from the various scholarly contributions, hospital performance is about the hospital accomplishing set of predetermined standards and protocols for the betterment of the entire stakeholders. This is grouped into six (6) different categories namely:

1. Financial (This covers things like cost of patients treatment, hospital budget implementation, average cost per discharge, account receivables, account payables, hospital operating margin, and so on)



2. Clinical (This include bed occupancy rate, mortality / morbidity rate, turnaround time for investigations & diagnosis, patients readmission rate, sentinel events per a thousand patients days, etc.)
3. Stakeholders (Covering Patients waiting time, patients satisfaction, employees satisfaction, quality of care, employee/management engagement, etc.).
4. Internal Processes & Services (Adherenceto set standards and policies, compliance with regulations, medication reconciliation on admission, rate of inpatient falls, others)
5. Employees Development (Attrition rate, rate of participation in learning activities and so on)
6. Commercials (Rate of new patients, rate of expansion initiative, etc.)

Hospital Performance & Total Operating Margin

Out of the sixteen (16) performance key performance indicators proposed by AchieveIt (2013) total operating margin happens to be one of the major indicators that deals with financial performance. Kenton (2019) expresses that operating margin is a measure of how much profit a company makes on every naira income, after paying for variable costs of production, such as wages and raw materials, but before paying interest or tax. It is calculated by dividing a company's operating profit by its net income.

Anderson (2017) further explains that since hospitals operate on business models, it is relevant to track their revenue against expenditures in other to establish the health of their margins. This implies that operating margin stands as one of the ways through which hospitals performance can be measured to ascertain its financial state of health.

Fool (2018) explains that operating margin is simply calculated by taking a company's operating income and dividing it by its total revenue; and the resulting percentage becomes the operating margin.

It is therefore evident, from the aforementioned, that in assessing the performance of hospitals as an economic

entity, total operating margin is an important element to measure. Operating margin of a hospital is therefore, calculated by dividing the hospital's operating income/revenue with the hospitals' operating expenditures and multiplying with 100 in other to express the margin in a percentage. This is done with the exemption of all interest incomes and expenditures.

Empirical Review

Rajan (2014) carried out a study on the impact of nurses' turnover on organization performance in Madurai, India. The survey based descriptive research work has been undertaken with the objectives of analysing impact of turnover of nurses on organization performance and offering suitable suggestions to control and prevent turnover of nurses. The study has adopted both convenient and judgment sampling methods and sampled 30 administrators from 30 leading private multi-specialty hospitals in Tirunelveli city, Tamilnadu, India. Primary data have been collected by a constructed questionnaire along with personal discussion. Percentage method has been administered to analyse profile of the respondents. Both Mean and Standard deviation have been employed to analyse impact of turnover of nurses on organization performance. The study found excessive work load for remaining staff, delay in daily routine procedures (e.g. transfer of the patient to operation theatre, ICU and wards), poor patient satisfaction and complaints from patients (as newly joined staffs take long time to cope with routine procedures) are foremost impact of turnover of nurses in private hospitals. The study recommends that hospital management should take necessary steps to correct deficiencies in the hospital and fulfil the needs of nurses which will enhance their satisfaction and motivation and thereby improve retention of the nurses so as to provide quality care to the patients.

Oyira, Regina, Nkamare, Felicia, Uwa and Awok (2015) carried out a study on the effect of reward system among health care workers performance: a case study of university of Calabar teaching hospital



Calabar, Nigeria. The study investigated the effect of reward system on health care workers performance in Teaching Hospital. The objectives of the study were to examine the relationship among monetary and non-monetary rewards and employees' performance in University of Calabar Teaching Hospital (UCTH). Desk survey was used in gathering relevant information. The study concluded that reward system is based on the assumption that rewarding employees would attract, retain and motivate workers. The study recommended that management of UCTH should boost the morale of their employees through fair and equitable reward system. The study further recommended that management should be effective with monetary rewards like bonuses and fringe benefits to encourage the workers to improve performance.

Taqdees, Shahab and Asma (2018) conducted hospital healthcare service quality, patient satisfaction and loyalty: An investigation in context of private healthcare systems. The purpose of this paper is to explain the patients' views towards private healthcare service providers. The study focused on hospital service quality and analysed the relative significance of quality measurements in anticipating the patients' satisfaction and loyalty. The mediating role of patient satisfaction is assessed between quality of hospital healthcare services and patient loyalty. Data were analysed through descriptive statistics, common method variance, reliability, correlation and regression in order to investigate customer perceived service quality and how the quality of services stimulates loyalty intentions towards private service suppliers. Findings depict that private healthcare service providers are attempting to deliver well improved healthcare services to their customers. The study confirmed that better quality of healthcare services inclines to build satisfaction and loyalty among patients. The study shows that hospital management deliver attentions towards the quality of private healthcare service systems and improvements towards the deficient healthcare services. The study concludes that hospital healthcare service quality was

examined in order to find out its effect on patient satisfaction and patient loyalty.

Yatin, Abhinav, Subhash, Myatra, Samaddar, Vijaya, Pradip and Suresh (2014) conducted a study on guidelines for prevention of hospital acquired infections. These guidelines, written for clinicians, contains evidence-based recommendations for the prevention of hospital acquired infections. Hospital acquired infections are a major cause of mortality and morbidity and provide challenge to clinicians. Measures of infection control include identifying patients at risk of nosocomial infections, observing hand hygiene, following standard precautions to reduce transmission and strategies to reduce Ventilator Associated Pneumonia (VAP), Catheter Related Blood Stream Infection (CR-BSI) and Catheter Related Urinary Tract Infection (CRUTI). The recommendations in these guidelines are intended to support, and not replace, good clinical judgment. The recommendations are rated by a letter that indicates the strength of the recommendation and a Roman numeral that indicates the quality of evidence supporting the recommendation, so that readers can ascertain how best to apply the recommendations in their practice environments.

Research Methodology

Research Design

The study adopted a descriptive research design (that is, questionnaire based technique and derived answers to the problems).

Sources of Data

The study made use of data from two different sources namely primary source and secondary sources.

Primary Data

Source of the primary data for the study was from a self-administered questionnaire during field observation and survey.

Secondary Data

The researcher obtained secondary data for the study from published yellow page, internet websites and reports from the state ministries of health in the South-South Nigeria.



Area of the study

The study areas covered all the private hospitals in South-South States of the Federal Republic of Nigeria. These states and their capitals were Rivers State/Port Harcourt, Bayelsa State/Yenegua, Edo State/Benin, Akwa-Ibom State/Uyo, Cross River State/Calabar, and Delta State/Asaba. South -South Nigeria is also known as the Niger Delta region and most of the oil wells are located in that region.

Population of the Study

The population is comprised of private hospitals in the (6) states of the South-South Nigeria (that is, Rivers State/Port Harcourt, Bayelsa State/Yenegua, Edo State/Benin, Akwa-Ibom State/Uyo, Cross River State/Calabar, and Delta State/Asaba).

Table 1, summarizes the population distribution. The considerations made in selecting the nine (9) hospitals were as follows:

- i. Hospitals with in-house laboratory services, other diagnostic units and bed size of not less than twenty five (25) beds in the state capitals of the six (6) states in South-South Nigeria.
- ii. One in every four qualifying private hospital was selected from each state capital was randomly selected.
- iii. At least one qualifying private hospital per state capital was selected.

The population of study was the total number of employees in the nine selected private hospitals in South-South Nigeria.

Table 1: Hospitals in the six state capitals of South-South Nigeria

	State Capital	No. of Hospitals	No. of Private Hospitals	No. of Private Hospitals that met the criteria	No of Selected Hospitals	No of Staff in the Selected Hospitals	Basis of Selection
Rivers	Port Harcourt	92	86	16	4	240	Simple Random Probability Technique
Bayelsa	Yenegua	5	2	2	1	68	
Delta	Asaba	12	11	3	1	87	
Edo	Benin	21	19	4	1	149	
Akwa-Ibom	Uyo	13	12	4	1	85	
Cross River	Calabar	17	13	3	1	72	
Total			143	32	9	701	

Source: Internet, 2018

Sample Size Determination

Simple random sampling technique was used to select nine private hospitals following the considerations that one in every four qualifying private hospital was selected from each state capital and at least one qualifying private hospital was selected per each state capital. The choice of simple random sampling

technique is because it is highly representative, as it gave each of the population equal chance of being selected. The nine hospitals selected have a total of seven hundred and one (701) staff that formed the population size of the study. The sample size used was the same as the population size and the 701 surveys distributed, 668 (that is, 95 percent) was returned.



Instruments for Data Collection

The sources of data for the study shall be predominantly from primary and secondary data. The primary data would be collected with the aid of questionnaires and interviews while the secondary data would be collected from the Yellow page, reports from the Ministry of Health and the internet. The data collection instrument was self-administered questionnaire, which was based on the research questions and hypothesis. The questionnaire was structured to picture section A and B which cover the personal data of the respondent and the questionnaire items respectively.

Validity of the Instrument

The method used in validating the research instrument was face method. The questionnaire was given to experts who understand performance management practices in hospitals and they assessed and validated the questions contained in the questionnaire.

Reliability of the Instrument

The reliability Co-efficient represented by Cronbach's Alpha (α) was higher than 0.738 which made the instrument reliable. This confirms there was a considerable relationship between the items in the instrument which according to Gliem&Gliem (2003) was considered as very good instrument for the purpose of the research.

Method of Data Presentation and Analyses

The responses to the study were structured with close-ended questions which was scaled as Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The percentage of respondents for each alternative was given and analysed. The hypotheses were analysed using Z test.

Data Presentation, Analysis and Interpretation of Data

Data Relating to Research Questions

Research Question One: How does hospitals infection control practices influence patients 'surgical outcome in private hospitals in South-South Nigeria?

Table 2: Response on the statement the hospital is frequently cleaned with appropriate disinfectant to control the spread of any infections.

	Frequency	Percent	Valid Percent	Mean (X)	Std.
Strongly Agree	244	36.5	36.5	4.1858	.61370
Agree	144	21.6	21.6	3.9838	.60666
Neutral	83	12.4	12.4	4.3704	.30322
Disagree	83	12.4	12.4	3.1386	.58656
Strongly Disagree	114	17.1	17.1	2.8611	.75905
Total	668	100.0	100.0	3.7083	.57382

Source: Field Survey, 2018

Table 2 indicated that 244 respondents out of 668 representing 36.5 percent strongly agree that the hospital is frequently cleaned with appropriate disinfectant to control the spread of any infections with mean score (4.1858) and standard deviation (.61370). 144 respondents representing 21.6 percent agree with mean score (3.9838) and standard deviation (.60666),

83 were neutral respondents representing 12.4 percent that the hospital is frequently cleaned with appropriate disinfectant to control the spread of any infections with mean score of (4.3704) and standard deviation (.30322), 83 respondents representing 12.4 percent disagree with mean score of 3.1386) and standard deviation (.58656). 114 respondents representing 17.1



percent strongly disagree that the hospital is frequently cleaned with appropriate disinfectant to

control the spread of any infections with mean score (2.8611) and standard deviation of (.75905).

Research Question Two: What is the effect of performance management practices on staff turnover in private hospitals in South-South Nigeria?

Table 3: Response on the statement that performance appraisal is publicly done in my hospital which helps to retain staff

	Frequency	Percent	Valid Percent	Mean (X)	Std.
Strongly Agree	62	9.3	9.3	3.5108	.96660
Agree	343	51.3	51.3	3.7415	.83542
Neutral	94	14.1	14.1	3.8156	.70561
Disagree	129	19.3	19.3	3.6615	.86476
Strongly Disagree	40	6.0	6.0	3.1583	.78169
Total	668	100.0	100.0	3.5780	.83080

Source: Field Survey, 2018

Table 3 indicated that 62 respondents out of 668 representing 9.3 percent strongly agree that performance appraisal is publicly done in my hospital which helps to retain staff with mean score (3.5108) and standard deviation (.96660). 343 respondents representing 51.3 percent agree with mean score (3.7415) and standard deviation (.83542). 94 respondents representing 14.1 percent were neutral that performance appraisal is publicly done in my hospital which helps to

retain staff with mean score of (3.8156) and standard deviation (.70561). 129 respondents representing 19.3 percent disagree with mean score of (3.6615) and standard deviation (.86476). 40 respondents representing 6.0 percent strongly disagree that performance appraisal is publicly done in my hospital which helps to retain staff with mean score (3.1583) and standard deviation of (.78169).

Test of Hypotheses

Hypothesis One

Hospitals infection control practices does not positively influence patients' surgical outcome in private hospitals in the South-South Nigeria.

Contingency table of cumulative responses of research Question One

	Frequency	Percent	Minimum	Maximum	Mean	Std.
Strongly Agree	1763	44	1	5	1.444	.6422
Agree	817	20	1	5	.669	.2976
Neutral	449	11	1	5	.368	.1636
Disagree	621	15	1	5	.509	.2262
Strongly Disagree	358	9	1	5	.293	.1304
Total	4008	100			3.283	1.460

Source: Field survey 2018



This, shows that the sum of 1763 respondents strongly agreed out of 4008 representing 44 percent, 817 respondents agreed representing 20 percent, 449 respondents were neutral representing 11 percent, 621 respondents disagreed representing 15 percent and 358 of the respondent strongly disagreed representing 9 percent with 3.283 mean score and 1.460 standard deviation.

Statistical Analysis

Statistic tool used = Z-test

Level of confidence = 0.05

Critical value = 1.96

With the aid of SPSS Version 20

Z – test on the Hospitals infection control practices does not positively influence patients' surgical outcome in private hospitals in the South-South Nigeria.

		Hospitals infection control practices does not positively influence patients' surgical outcome in private hospitals in the South-South Nigeria.
N		668
Normal Parameters	Mean	3.283
	Std Deviation	1.460
Most Extreme	Absolute	.266
Most Extreme	Positive	.266
Differences	Negative	-.266
Kolmogorov-Smirnon Z		5.154
Asymp. Sig.(2-tailed)		.000

a. Test distribution is Normal

b. Calculated from data

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e. $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value of 5.154 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that hospitals infection control practices does positively influence patients' surgical outcome in private hospitals in the South-South Nigeria.

Decision

Furthermore, comparing the calculated Z- value of 5.154 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that With Kolmogorov-Smirnon Z – value of 5.154 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that hospitals infection control practices does positively influence patients' surgical outcome in private hospitals in the South-South Nigeria.



Hypothesis Two

Performance management practices do not have positive effect on staff turnover in private hospitals in South-South Nigeria

Table 4.4.3.1 Contingency table of cumulative responses of research Question Two

	Frequency	Percent	Minimum	Maximum	Mean	Std.
Strongly Agree	1080	27	1	5	.983	.5152
Agree	1481	37	1	5	1.348	.7065
Neutral	455	11	1	5	.414	.2171
Disagree	542	14	1	5	.494	.2582
Strongly Disagree	450	11	1	5	.410	.2146
Total	4008	100			3.649	1.9116

Source: Field survey 2018

Table 4.4.3.1, shows that the sum of 1080 respondents strongly agreed out of 4008 representing 27 percent, 1481 respondents agreed representing 37 percent, 455 respondents were neutral representing 11 percent, 542 respondents disagreed representing 14 percent and 450 of the respondent strongly disagreed representing 11 percent with 3.649 mean score and 1.9116 standard deviation.

Statistical Analysis

Statistic tool used = Z-test

Level of confidence = 0.05

Critical value = 1.96

With the aid of SPSS Version 20

Table 4.4.1.3: Z – test on the Rewarding performance of workers does not significantly and negatively affect staff turnover in private hospitals in South-South Nigeria.

		Rewarding performance of workers does not significantly and negatively affect staff turnover in private hospitals in South-South Nigeria
N		668
Normal Parameters	Mean	3.649
	Std Deviation	1.912
Most Extreme	Absolute	.272
Most Extreme	Positive	.272
Differences	Negative	-.272
Kolmogorov-Smirnon Z		8.890
Asymp. Sig.(2-tailed)		.000
a. Test distribution is Normal		
b. Calculated from data		



Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e. $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnov Z – value of 8.89 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that performance management practices does have positive effect on staff turnover in private hospitals in South-South Nigeria

Decision

Furthermore, comparing the calculated Z- value of 8.89 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that With Kolmogorov-Smirnov Z – value of 8.89 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that performance management practices does have positive effect on staff turnover in private hospitals in South-South Nigeria.

Summary of findings

The summary of findings is as follows:

1. Hospitals infection control practices positively influenced patients' surgical outcome in private hospitals in the South-South Nigeria as reported in the probability value of $Z(95, n=701) = 8.89 ; p < 0.05$.
2. Performance management practices do have positive effect on staff turnover in private hospitals in South-South Nigeria as reported in the probability value of $Z(95, n=701) = 5.154 ; p < 0.05$.

Conclusion

The study is on evaluating the relationship between hospitals infection control practices and patients surgical outcome in private hospitals in south-south Nigeria. Overall result shows that Hospitals infection

control practices positively influenced patients' surgical outcome in private hospitals in the South-South Nigeria.

Recommendations

Based on the findings the following recommendations were made:

- i. Private hospitals should continuously and consistently improve infection control through proper waste disposal, hand washing and other infection control practices.
- ii. Introduction of well-structured appraisal system in the private hospitals in the South-South Nigeria is very important and therefore recommended. The major propeller for staff effectiveness was performance appraisal; therefore management of private hospitals should find ways of appraisal and recognizing their staff with very good and outstanding performance.

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