

Causes And Prevention of Hospital Acquired Infections among Health Care Workers in Selected Community Health Centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State

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Abstract

One of the major challenges of students in clinical postings is exposure to hospital-related infections. The purpose of this study was to determine the causes and prevention of hospital acquired infections among health care workers in selected community health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State during clinical postings. Descriptive research design was adopted for this study, while the instrument for data collection was a well-structured questionnaire formulated by the researcher and validated by experts to suit the main purpose of the study. The sample size which was one hundred and ninety-three (193) Community health care workers on clinical posting was determined using Taro Yamane formula. Simple random sampling technique was employed to select the respondents. Data obtained was analyzed using descriptive statistics of frequencies table and simple percentages. Findings of the study revealed that possible causes of hospital-related infections during clinical posting are viruses, fungi, bacteria and parasites, while preventive measures of hospital related infections among Community health center workers during clinical posting includes; hand washing, sterilization of equipment, the use of personal protective equipment, isolation of patients and surface sanitation. The proper orientation on the causes, consequences and prevention of hospital related infections before clinical posting as well as disposal of medical waste in the appropriate receptacles during clinical procedures, were recommended.

Keywords: Hospital, Infection, Causes and Prevention

Introduction

Healthcare-acquired infections (HAIs) continue to pose a threat to the healthcare industry. The Centre for Disease Control and Prevention (CDC) cited in Becker (2014) estimated that 1 in 20 patients contract HAIs every day. Unfortunately, hospitals are great breeding grounds for infections as a lot of people, often with infections are usually found together in close quarters of a hospital, with suppressed immune systems thereby making other patients and health

workers highly susceptible to infections (Andersen, 2012). In a related development Goniewicz (2012) asserted that the healthcare workforce represents about 12% of the working population worldwide and healthcare workers, operate in an environment that is considered to be one of the most hazardous occupational settings (Moore, 1990).

Hospital-acquired infections also known as nosocomial infections refer to any infection that can be acquired in a hospital or other health care facilities. According to Hospital Associated Infections Data and Statistics-HAIDS, (2018), such an infection can be acquired in hospitals, nursing homes, rehabilitation facilities, outpatient clinics, or other clinical settings by various means. These infections can originate from the outside environment, another infected patient, staff that may be infected, or in some cases, the source of the infection cannot be determined (Benenson, 2015). In some cases, the microorganism may originate from the patient's own skin microbiota, becoming opportunistic after surgery or other procedures that compromise the protective skin barrier and can be spread through contaminated equipment, bed linens, or air droplets (Wilks & Michels, 2015). Though the patient may have contracted the infection from their own skin, the infection is still considered nosocomial since it develops in the health care setting ((Lautenbach, 2011; Akbari & Kjellerup, 2015). A nosocomial infection also called “hospital acquired infection” is acquired in hospital by a patient who was admitted for a reason other than that infection (Ducel, 2012). This includes infections acquired in the hospital but appearing after discharge, and also occupational infections among staff of the facility (Benenson, 2015). According to Graham (2016), nosocomial infections are contracted because of an infection or toxin that exists in certain locations, such as a hospital. However, people now use nosocomial infections interchangeably with the terms health-care associated infections and hospital-acquired infections (Haverstick, 2017). For HAIs, the infection must not be present before someone has been under medical care. One of the most common wards where HAIs occur is the intensive care unit (ICU), where doctors treat serious diseases (Wilks & Michels, 2015).

According to a related study carried out, about 1 in 10 of people admitted to a hospital will contract a HAI (Arrowsmith, & Taylor, 2014). They are also associated with significant morbidity, mortality, and hospital costs (Graham, 2016). In addition to the usual workplace related exposures, healthcare workers encounter diverse hazards due to their work-related activities (Moore, 2012; Otter & French, 2013; McBryde & Bradley, 2014; Manyele, 2018). In spite of this knowledge, the healthcare work environment continues to be neglected by governments and organizations (Lipscomb, 1997). A higher annual prevalence of back pain was reported at (77%) among healthcare workers compared to other occupational groups (Andersen, 2012).

In a study carried out recently, it was observed that back injuries are associated with a direct cost of \$37,000 and an indirect cost ranging from \$147,000 to \$300,000 (Andersen, 2012; Graham, 2016). In fact, ergonomic related injuries pose a significant health risk to workers and yet it is the most prevalent occupational injury in healthcare industry (Health and Safety Education, 2015). Healthcare workers are exposed to blood-borne infections which usually expose them to diseases such as HIV, TB, and hepatitis B and hepatitis C (Goniewicz, 2012). Substantial morbidity and mortality among these workers inevitably lead to loss of skilled personnel and adversely impact healthcare services which are already strained in many low- and middle-income countries in Africa, including Nigeria (Kolar & Latal, 2011; Becker, 2014; Leun & Chan, 2016).

In sub-Saharan Africa, the scarcity of human resource for health is described as a humanitarian resource crisis due to significant emigration of trained professionals, difficult working conditions, poor salaries, low motivation, and high burden of infectious diseases, particularly HIV/AIDS (WHO, 2016). All of these have contributed to shortage of man power in our health facilities as there are no provisions for good working environment and no measures are put in place for health workers who may be infected in one way or the other in cause of carrying out their duties (Nsubuga, 2015; Anicetus, 2016; Haverstick, 2017).

Statement of the Problem

Every year, most / Health care workers posted to different health care facilities come back with infections suspected to have been acquired from those facilities as a result of their exposures to disease agents. This has made it expedient to find out the predisposing factors associated with clinical infections among healthcare workers in order to protect them through possible occupational health and safety policies. In view of the above, this study investigated the causes and prevention of hospital acquired infections among health care workers in selected health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.

Purpose of this Study:

The purpose of this research is to assess the causes and prevention of hospital acquired infections among health care workers in selected Community health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.

The specific objectives of this study are:

1. To determine level of awareness about hospital acquired infections among health care workers in selected Community health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.
2. To find out the Perceived Causes of Hospital Acquired Infections among health care workers in selected Community health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.

Research Questions

1. What is the level of awareness about hospital acquired infections among health care workers in selected Community health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.?
2. What are the Perceived Causes of Hospital Acquired Infections among health care workers?

Methodology

Study Area: The study is conducted in selected Community health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State under Rivers West Senatorial District, with its capital at Omoku. With about 258,700 People according to 2006 Census, It lies

in a geographical Coordinates: latitude 5°20'30.01"N 6°39'20.02"EI. It is bounded by Imo, Delta, Bayelsa, Abia States and also by Ahoada West, Ahoada East and Emohua Local Government Areas of Rivers State. The LGA is the largest oil and gas producer in Rivers State. The indigenes are renowned as great farmers and fishermen, with a rich cultural history.

Research Design: The study adopted a descriptive survey method. The choice of this design was informed because the researcher drew sample from a large population and made use of existing data without any form of manipulation in order to achieve certain outcomes and this is in line with the assertion of Robert (2016).

Study Population: The study population comprised of all 354 Community health care center workers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.

Sample Size and Sampling Technique: The sample size for the study consisted of 78 students who are currently working in the selected Community health care centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State.

The study adopted simple random sampling technique in order to give equal opportunity of selection to each member of the population. To arrive at this, Taro Yamane sample size determination formula was used as stated below;

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size

N = population of study = 354

1 = constant factor

e = Level of significance error term at 5% (95% confidence interval) = 0.10

Substituting these values in the formula;

$$n = \frac{354}{1+354(0.10)^2}$$

$$n = \frac{354}{1+354(0.01)}$$

$$n = \frac{354}{1+35.4}$$

$$n = \frac{354}{46.4} = 78$$

45.4

-: Sample size n = approximately 78

Instrument for Data Collection: The instrument for data collection is a self-structured and validated questionnaire with a reliability index of 0.78 which is within the acceptable limits set by the study.

Method of Data Collection: The researcher administered 193 copies of the instrument directly (face-face) to the respondents using the interviewer- administration method and the questionnaires were collected on the spot after completion.

Method of Data Analysis: Descriptive statistics of percentage and frequency were used to analyze the data collated and the data are subjected to statistical analysis using Statistical Package for Social Sciences (SPSS) of windows (version 20.0). However, Frequencies, means, ranking statistical tools were used to analyze the data. Using level of significant of 0.05 and a mean of 1.50 as a bench mark, i.e. (0.05 + 1.50), the out off point was fixed at 1.55. Therefore, the item with mean of 1.35 and about, were considered significant and below, not significant.

Ethical Consideration: The researcher received approval letter from the ethical committee, department of public health, Rivers State College of Health Science and Management Technology, Port Harcourt, which enables him to conduct research in the study Area.

Result and Discussion

Research Question 1: What is the Level of Awareness about Hospital Acquired Infections among Health Care Workers in Selected Health Centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State?

Hypothesis 1: To What Extent is the Hospital Management Board Created Awareness and Perceived of Acquired Infections in Selected Health Centers in ONELGA.

Table 1: Hospital Management Board Create Awareness or Perceived to Acquire Infections in Selected Health Centers in ONELGA

Creating awareness / or perceived of acquired infections	Frequencies agral	Frequencies briagree	Mean X	Rank	Significant
Newlines	70	8	1.95	1	
Newspapers	60	18	1.90	2	
Bulletins	63	15	1.81	3	
Magazines	55	47	1.77	4	
Radio	50	28	1.73	5	
Handbills	40	38	1.68	6	
Bill boards	65	13	1.60	7	

Flyers	45	33	1.58	8
Personal contact	53	25	1.49	9
Sharing management responsibility	59	19	1.65	10
Point news	49	29	1.57	11

From the table above, the management of hospital board perceived 8 out of 11 acquired disease infections among selected health centers in Onelga as significant. The most frequency occurring infections acquired and was made known through media of 8 sources, 3 out of 11 said not significant enough to constitute awareness of perceived medium for acquired infections in selected health centers. There non – significant strategies are listed in the table.

The findings showcase in the table are supportive of previous researches of Emaka (2014), Asmstring (2010), Badmus (2016), Kayode (2015) and Mordecai (2014) who reported among other findings that poor understanding awareness or perceive infections are crucial to health among the selected health centers in Onelga, Rivers State.

Research Question 2: What are the Perceived Causes of Hospital Acquired Infections among Health Care Workers?

Hypothesis 2. To What Extent is the Management of Hospital Board Perceived Causes and Prevention of Acquired Infections in Selected Community Health Centers in ONELGA, Rivers State.

Table 2: Hospital Management Board Perceived Causes of Acquired Infection in Selected Community Hospital Centers

Causes	Frequency agree	Frequency not agree	Mean (X)	Rank	14k
Personal contact	60	18	1.89	2	
Unclean needles	50	28	1.86	3	
Unclean environment	40	38	1.83	4	
Untrained nurses	55	23	1.82	5	
Non washing of bed spread	45	33	1.74	6	
Non disposal of waste from health center	66	12	1.62	7	

Incompetent worker	59	19	1.59	8	
Non - payment of salaries	22	56	1.42	9	
Non being promoted and special incentives	10	68	130	10	

The table 2 shows hospital management perceived causes and prevention of required infection among health centers in Onelga. The result presented in table 2 indicated that the board identified 5 out of 9 factors which cause infections among the selected centers in Onelga are significant that revealed the various infections which comes through unclean needles, non-cleaning of environments etc., contributed to the transfer of disease of infections from one patient to another. Other notable causes of infections includes; untrained nurses, non-washing of beddings, non-disposition of health centers wastes, incompetent workers etc. from the table also, the perceived causes of 9X10 were not significant. These were the factors of instability in health centers due to government non - intervention associated with the growing problems of nurses and patients in the selected health centers in the Areas of study. The finding that the causes and the prevention associated with the consideration by others are pertinent to note that the perceived required infection and prevention in selected health centers are not for significant and are managed for effective examination and implementation for all the health centers in the state.

Conclusion

In conclusion, it is constant issues in health centers or hospitals that there are perceived acquired infection and if not property taken care of will deterred the yearning and aspiration of patients coming to this public environment for medical attention.

Recommendations

Based on the above findings, the following recommendations were made;

1. The medical personnel should always ensure high personal hygiene during clinical postings.
2. Medical personnel should always ensure safe injection practices.
3. Disposal of medical waste in the appropriate receptacles should be practiced in Hospitals
4. Health care workers should be given proper orientation on the causes, consequences and prevention of hospital related infections before they are sent on clinical posting.
5. Adequate protective equipment should be provided for health care workers to prevent them from contracting hospital infections.
6. It is also recommendation that health institutions management should first of all take drastic measures to combating these causes of infections and the control segment to be effective and always recommend these fact to government for prompt action and rehabilitation for life protection and safety.

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