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Assessment of level of education of healthcare workers on nosocomial infection prevention in healthcare facilities in Abia North, Abia State, Nigeria

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Abstract
Public Health education in the prevention and control of Hospital Acquired Infection (HAIs) has been an issue in Nigeria and other developing countries. This paper examined the level of education of healthcare workers in the prevention of infections acquired in healthcare facilities in Abia North Senatorial district of Abia State, Nigeria. A Multi Stage sampling technique was adopted starting from larger cluster samples at the first stage in Abia North zone. A well-structured questionnaire was used to obtain the primary data from the staff of the healthcare facilities through random sampling. Data was analyzed with criterion mean scale (CMS) to determine the level of education and availability of equipment for prevention and control of Healthcare acquired infection (HAIs). Results showed that majority of the health workers at the facilities do not properly apply infection prevention and control measures at their work places, they also do not adequately improve on their level of education (through seminars, workshops, continuous professional development programs among others), finally, they rated poorly the equipment for nosoomial infection prevention and control at the healthcare facilities in Abia North Senatorial zone of Abia State, Nigeria. Recommendations were therefore made for the need for continuous professional education, and the need for the health facilities to be properly equipped in Abia North senatorial district in Abia State.

Keywords: education, healthcare, infection, prevention/control, workers

Introduction
According to National Open University of Nigeria, NOUN (2006) [3], the word "Education" is extensively used for the development of human beings in the cognitive effect, psycho-motor and psycho-domains. Educators and educationist generally believe that education involves a desirable change in human behavior through the process of teaching and learning. This means that a human being who exhibits undesirable behaviours from the point of view of the acceptable societal norms cannot be adjudged an educated person, despite the fact that he had passed through the four walls of an educational institution. Generally, the society expects to see a kind of positive change from an educate person exhibited by the level of education attained.
Health Education is a communication activity aimed at enhancing or admonishing ill health in individuals, group or community through influencing the belief, attitudes and behaviours of those with and of the community at large (Downie, Fyle and Tannahill, 1990) [1]. Knowledge in health therefore comprises consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including providing knowledge and developing life skills which are conducive to individual or community health. Health knowledge is any planned combination of learning processes and combinations which may be designed to enable, predispose and reinforce voluntary behaviour conducive to health and preventing infections in individuals group or communities (Odim, 2015) [4]. It is therefore the awareness of a particular fact or situation, a state of having been informed or made aware of something, the familiarity or understanding of a particular skill, branch of learning among others.

Statement of the Problem
The public health problems associated with communicable diseases and infections have been a major concern in Nigeria and other countries particularly the developing ones. Infections associated with health care facilities because significant morbidity and mortality at least 30% of health care associated infections can be prevented by following infection prevention and control strategies (Garner, 2004) [2]. Despite the public health education campaign mounted by the government and its agencies including Non-Governmental Organization (NGO), hospitals and health care centers still record high level of nosocomial infections. The public health education on infection prevention and control may have had an impact on the Nigerian communities. This research therefore seeks to examine the level of knowledge impact of this health education and information on infection prevention and control measures and to assess the level of compliance by the health workers of Abia North senatorial zone of Abia State which is the study area.

Aim of the Study
The aim of this study is to examine the knowledge level and extent to which health workers comply with infection prevention and control techniques in Abia North State in Abia State.

The Objectives
In order to achieve the aim of this study, the following

specific objectives were considered:

1. To determine the level of knowledge of infection prevention and control among health workers in Abia North Senotorial Zone in Abia State.
2. To determine the extent and availability of equipments for the prevention and control of infection by health workers in Abia North Senotorial Zone in Abia State.

Research Question

Based on the stated aim and objectives, the following, research questions guided the study:

1. What is the level of knowledge of infection prevention and control among health workers in Abia North Senatorial Zone, Abia State?
2. What extent are the healthcare facilities equipped for nosocomial infection prevention and control in Abia North Senatorial zone of Abia state.

Methodology

This study involved randomly selected health care workers from some healthcare facilities in Abia North Senatorial zone of Abia State. Workers who will not give informed consent or mentally sick were excluded. Fisher's formula (Ogbeibu, 2014) for cross sectional study was used to determine the sample size to be 30. Although the sample size was determined to be 30, fifty (50) questionnaires were distributed. Thirty two (32) were returned.

Multi stage sample technique was adopted starting with large cluster samples at first stage in Abia North senatorial district. This includes Health care facilities from various local government areas in the Abia North (see Fig1). The simple random sampling technique was used to select the participants for the study.

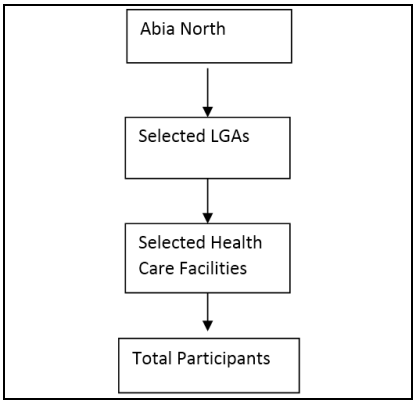

Fig 1: Flow Chart for Multi Stage Sampling

Data Presentation and Analysis

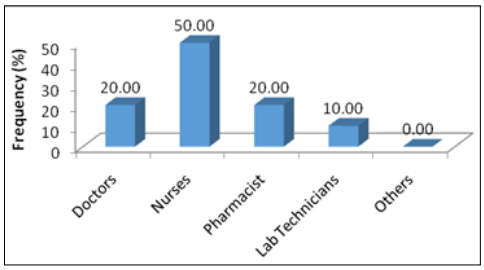

Fig 2: Distribution of healthcare workers interviewed in Abia North

Figure 2.0 showed that out of the 20 healthcare workers in Abia North that were interviewed, 4(20.00%) were doctors; 10(50.00%) were nurses; 4(20.00%) were pharmacists; 2(10.00%) were lab technicians; others were 0(0.00%)

Table 1: Response of health workers on Nosocomial Infection (NI) Prevention and Control Techniques Abia North

Criteria	VK (%)	K (%)	PK (%)	NK (%)
Level of knowledge in NI	4(20.00%)	10(50.00%)	6(30.00%)	0(0.00%)
Level of knowledge in NI control	2(10.00%)	12(60.00%)	6(30.00%)	0(0.00%)
	Very well (%)	Well (%)	Not well (%)	Not at all (%)
Extent you have tried to improve educational level	0(0.00%)	6(30.00%)	14(70.00%)	0(0.00%)
Do you apply NI prevention/control measures	0(0.00%)	10(50.00%)	10(50.00%)	0(0.00%)
	100% (%)	60% (%)	30% (%)	0% (%)
What extent do you attend seminars on NI prevention/control measures	0(0.00%)	6(30.00%)	12(60.00%)	2(10.00%)
Rate equipment for NI prevention/control in your institution	0(0.00%)	2(10.00%)	18 (90.00%)	0(0.00%)

Table 1.0 showed that out of the 20 healthcare workers that were interviewed in Abia North, their response to level of knowledge of nosocomial infection prevention were "very knowledgeable", 4(20.00%); "knowledgeable", 10(50.00%); "poorly knowledgeable", 6(30.00%); "not knowledgeable", 0(0.00%). On their level of knowledge in nosocomial infection control, "very knowledgeable", 2(10.00%); "knowledgeable", 12(60.00%); "poorly knowledgeable", 6(30.00%); "not knowledgeable", 0(0.00%). On the extent they have tried to improve their education level, "very well", 0(0.00%); "well", 6(30.00%); "not well", 14(70.00%); "not at all", 0(0.00%). On if they apply nosocomial infection prevention/control measures, "very well", 0(0.00%); "well", 10(50.00%); "not well", 10(50.00%); "not at all", 0(0.00%). On the extent that they attend seminars on nosocomial infection control, "100%", 0(0.00%); "60%", 6(30.00%); "30%", 12(60.00%); "0%", 2(0.00%).On how they rate equipment for nosocomial infection control, "100%", 0(0.00%); "60%", 2(10.00%); "30%", 18(90.00%); "0%", 0(0.00%).

Conclusion

1. Majority of health workers at health care facilities do not make conscious efforts to improve their educational level on nosocomial infection prevention by attending seminars, conferences or workshops on nosocomial infection control.
2. The health workers at the healthcare facilities rated very poorly the equipments for nosocomial infection prevention and control at the health care facilities.

Recommendations

1. All health professionals including doctors, nurses, pharmacists, medical laboratory scientists, microbiologists, biochemists etc. should be mandated to attend annual scientific conferences, seminars and workshops to keep themselves updated with current trends in disease control.

2. Healthcare facilities in Abia North Senatorial zone should be properly equipped by relevant bodies for infection prevention and control.
3. The management of all health facilities must ensure that their staff wear their protective gears and adhere strictly to protocols and standard precautions with regard to prevention of nosocomial infections.

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