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RESEARCH PAPER

A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF STANDARD PRECAUTIONS AMONG THEATRE PERSONNEL IN IRRUA SPECIALIST TEACHING HOSPITAL, IRRUA, EDO STATE

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ABSTRACT

The aim of this descriptive non-experimental study was to assess the knowledge, attitude and practice of standard precautions among theatre personnel of Irrua Specialist Teaching Hospital Irrua (ISTH), Edo State, Nigeria, and to sensitize them on the need to comply with standard precautions. Using the simple random probability sampling technique, 30 respondents were selected from a total of 170 theatre personnel of ISTH, Irrua. The instrument of data collection was a well designed/pre-tested questionnaire, while data analysis was done using descriptive statistical tools –mean and percentages, including chi-square to test stated hypothesis. Results showed that 80% of the theater personnel had knowledge of standard precautions, while 83.3% had positive attitude towards it with 66.7% of the respondents complying with standard precautions. Over all, it was concluded that training and education are important in enhancing the knowledge and attitude of theatre personnel to standard precautions, as well as improving adherence to good clinical practices.

Key Words: Knowledge, Attitude, Practice, Theatre personnel, Standard Precautions

INTRODUCTION

Standard Precautions in the milieu of health service provision refer to the totality of safety measures applied universally to all individuals regardless of their presumed health status (Twitchell, 2003a; 2003b). It was designed to prevent transmission of infections and to protect health service providers from direct contact with blood and body fluids of patients (Siegel Rhinehart, 2007). Indeed, accidental infection remains one of the major problems in health care services worldwide as it constitutes one of the most important causes of morbidity and mortality in clinical, diagnostic and therapeutic procedures (Aiken, 1997; Park *et al*., 2008). For instance, theatre personnel are at high risk of needle injuries and blood borne pathogens as they perform their clinical activities in the theatre. They are exposed to blood borne pathogens like Human Immunodeficiency Virus (HIV), and Hepatitis B and C viruses from sharp instrument injuries and contact with blood and other body fluids.

In response to the growing number of individuals testing positive to HIV, Hepatitis B and other blood borne pathogens, it was then suggested that all cases involving blood borne infections be properly diagnosed and managed following standard precautions (CDC, 1987; 1989). This was later expanded to include blood and body fluid

precautions in which the use of masks and eye protectors were recommended to prevent mucus membrane exposures including routine use of barrier protection gadgets like gowns, aprons and gloves (Siegel *et al*., 2007; Lynch *et al*., 1990; Republic of Cyprus, 1996). The prevention of needle-stick injuries and the use of ventilation devices when resuscitation is done were also emphasized. Thus, 'standard precautions' applies to all potentially infectious body substances (Lynch *et al*., 1990) like blood, faeces, urine, saliva, wound drainage and other body fluids from all individuals regardless of their presumed health status.

However, several factors have been implicated in cases of non-compliance with standard precautions (Georgios *et al*. 2011). Available reports on hospital personnel becoming infected with HIV or other blood borne infections after a needle accident or skin exposure to patient's blood, have raised concerns on the urgent need for new and better measures to protect personnel from patient transmission of infection (Knight *et al*., 1998; Kermode, 2005; Konte *et al*., 2007). Even recent incidences associated with the Ebola outbreak in parts of West Africa has heightened this fear; hence the prompting to undertake this study on the 'knowledge, attitude, and practice of standard precautions among theatre personnel at lSTH, Irrua, Edo State, Nigeria.

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The specific objective of this study therefore, is to assess the knowledge and attitude of theater personnel to standard precautions, while appraising their level of compliance and the factors hindering the practice of standard precautions at ISTH, Irrua, Edo State, Nigeria. These objectives are hinged upon the hypothesis that the level of knowledge of standard precautions determines the attitude towards it and that positive attitude to standard precautions influences compliance with standard precautions.

MATERIAL AND METHODS

Study Area: Irrua Specialist Teaching Hospital is strategically located along Benin/Auchi/Abuja express road in Irrua, the administrative headquarters of Esan Central Local Government Area of Edo State, Nigeria. It is a tertiary Hospital that serves the Central and North senatorial districts of the state and also receives patients from the neighboring States of Delta, Kogi and Ondo States. It also serves as the training facility for students of Ambrose Alli University, Ekpoma, Zuma School of Midwifery, St. Camillus school of Midwifery Uromi. The hospital currently, has a school of Post Basic Nursing in the field of Preoperative Nursing Programme.

Research Design: This is a non-experimental descriptive study. The study population comprised all cadres of theatre personnel working in the main theatre of ISTH.

Study Population: The respondents were selected from a total of 170 theatre personnel working at the main theatre facility at ISTH, Irrua, Edo State, Nigeria. The target population comprised surgeons, preoperative nurses, anaesthetists/anaesthesiologists, ward orderlies, porters and anesthetic technicians.

Sampling Technique: The simple random probability sampling technique was used to select 30 respondents from the 170 theatre personnel working at the main theatre facility at ISTH, Irrua, Edo State, Nigeria.

Ethical Consideration: Ethical approval was sort and approved by the ethical committee of the hospital. In addition, informed consent was sort and obtained from each of the theatre personnel prior to the administration of the questionnaire. This however, was preceded by thorough explanation of the aims and objectives of the study. An assurance that the information collected from the participants will be treated with utmost confidentiality was given as anonymity was maintained. The research respondents were not exposed to any physical and mental stress.

Data Collection: A well structured and pre-tested questionnaire was used. The questionnaire has 2 sections. Section A comprises demographic data while section B comprised the body of the research. It consists of options to elicit information on knowledge, attitude and practice of standard precautions among theatre personnel in Irrua Specialist Teaching Hospital. The research questionnaire had closed ended questions. Prior to the actual data collection, a pilot study was conducted with the questionnaire at Saint Camilus Teaching Hospital, Uromi, among 10 theatre personnel to test and ascertain its reliability and validity. Some corrections were made thereafter, before distributing it to 30 respondents at ISTH, Irrua, who were selected using the 30% rule of simple random selection. Hence, the research questionnaire is valid and reliable.

Data Analysis: The data collected was analyzed using descriptive statistical tools –means and percentages. The technique was chosen due to its simplicity for data analysis. Chi-square test however, was used to test the stated hypothesis.

RESULTS

Table 1 below shows that 23.3% of the respondents fell within the age group of 21-30 years. 36.7% were within the ages of 31-40 years; 20% within age group of 41-50 years; and 20% within the age group of 51 years and above. Table 2 shows that 50% of respondents were males, while 50% were females. Table 3 shows that 80% of respondents are Christians, while 10% apiece, are Muslims and in other religious groups respectively.

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Table 1: Age distribution of the Respondents

AGE	FREQUENCY	PERCENTAGE (%)
21=30YEARS	7	23.3
31-40 YEARS	11	36.7
41-50 YEARS	6	20
51/ ABOVE	6	20
TOTAL	30	100%

Table 2: Gender distribution of the Respondents

GENDER	FREQUENCY	PERCENTAGE (%)
MALE	15	50%
FEMALE	15	50%
TOTAL	30	100%

Table 3: Respondent's distribution based on religious affiliation

RELIGION	FREQUENCY	PERCENTAGE (%)
CHRISTIANITY	24	80
ISLAM	3	10
OTHERS	3	10
TOTAL	30	100%

The result also shows that 80% of respondents have knowledge that standard precautions applies to all individuals/patients regardless of their presumed health status (table 4). 83.3% of the respondents have positive attitude towards standard precautions (table 5) as against the 6.6% that have a negative attitude. On the other hand, 90% of the respondents are aware of the standard precautions (table 6) while as shown in table 7, only 66.7% practice standard precautions as against the 6.6% and 66.7% that do not practice it at all or always respectively. Table 8 shows that 66.7% of the respondents got their information on standard precautions from Seminars and Mass Media.

Table 4: Respondent's knowledge of 'Standard Precautions'

OPTIONS	FREQUENCY	PERCENTAGE %
The precaution applies to all individuals/patients regardless of their presumed health status.	24	80
The precautions are practiced by everybody in the universe.	3	10
The precautions are practiced to avoid traffic accidents.	3	10
TOTAL	30	100%

Table 5: Respondent's attitude towards 'Standard Precautions'

ATTITUDE	FREQUENCY	PERCENTAGE %
POSITIVE	25	83.30
NEGATIVE	2	6.66
NO IDEA	3	10.00
TOTAL	30	100%

Table 6: Respondent's level of awareness on 'Standard Precautions'

RESPONSE	FREQUENCY	PERCENTAGE %
YES	27	90%
NO	3	10%
TOTAL	30	100%

Table 7: Respondent's response on practice of 'Standard Precautions'

RESPONSE	FREQUENCY	PERCENTAGE %
YES	20	66.7
NO	2	6.6
NOT ALWAYS	8	26.7
TOTAL	30	100 %

Table 8: Respondent's response on sources of information on 'Standard Precautions'

SOURCE	FREQUENCY	PERCENTAGE %
SCHOOL	20	66.7%
SEMINAR	8	26.7%
MASS MEDIA	2	6.6%
TOTAL	30	100%

On hypothesis testing, the calculated chi-square results indicated that there is a relationship between the level of knowledge and better attitude of theatre personnel towards standard precautions. It also implied that the level of knowledge determines the attitude of theatre personnel towards the practice of standard precautions. Similarly, the calculated chi-square results suggested that positive attitude of the theatre personnel influences their practice of standard precautions.

DISCUSSION

The findings of this study on the relationship between the level of knowledge and better attitude towards standard precautions, and the observation that positive attitude influences practice of standard precautions, are in line with the assertions made by several other researchers. In fact, Georgios *et al*. (2011) had earlier asserted that compliance to standard precautions can be influenced or controlled by a variety of factors like culture, economic and social factors, self-efficacy, and lack of knowledge or means. Lack of knowledge as a negative factor was specifically highlighted by Sax *et al*. (2005) and Oliveira *et al*. (2010), while others identified the lack of time (Madan *et al*., 2002; Tait *et al*., 2000; Kelen *et al*., 1990; Sax *et al*., 2005), forgetfulness (Sax *et al*., 2005; Oliveira *et al*., 2010), lack of means (Sax *et al*., 2005; Oliveira *et al*., 2010), negative influence of the equipment on nursing skills (Osborne, 2003; Stein *et al*., 2003; Tait *et al*., 2000; Kelen *et al*., 1990), uncomfortable equipment (Tait *et al*., 2000; Kelen *et al*., 1990), skin irritation (Oliveira *et al*., 2010), lack of training (Gershon et al., 1995), conflict between the need to provide care and self-protection (Gershon *et al*., 1995), and distance to necessary equipment or facility (Oliveira *et al*., 2010) as factors that can negatively influence compliance negatively. Interestingly, a greater number of the respondents in this study had appreciable knowledge on standard precautions which definitely, can encourage positive attitude and practice.

On the other hand, a positive correlation between educational status of the theatre personnel and their knowledge of standard precautions was observed; though over-work and short staffing accounted for the observed incidences of non-compliance despite the appreciable level of awareness among the theatre personnel about the consequent dangers. Indeed, stress related circumstances with capacity to influence compliance negatively, have been identified by Reda (2010) and Sadoh *et al*. (2006). Both researchers agreed that compliance with standard precautions can be influenced by the absence of an enabling environment. Also, on shortage of staff, one can not agree less, as it is a well known scenario in developing countries like Nigeria, and such is attributable to inadequate budget provision/funding, outright neglect by relevant authorities, and obvious managerial incompetence.

Nevertheless, it is our opinion that irrespective of the predetermining factors, we must all appreciate the fact that poor adherence to standard precautions puts both patients and theatre personnel at risk of blood borne infections. A case on point is the recent experiences with the Ebola epidemic in West Africa which has claimed the life of many health workers. It is our recommendation therefore, that relevant authorities should as a matter of urgency, encourage their health care employees to participate in seminars, workshops and lectures, for effective understanding and practice of standard precautions. There should be posters placed at strategic locations within the theatres and the hospital as a whole, to remind personnel of the need to practice standard precautions. The hospital should also provide antimicrobial agents for washing of hands before wearing and after removal of gloves. Concerted efforts must be made to expand the theatres and the staff strength must be enhanced to ease the work of theatre personnel. Finally, the government, through the Ministry of Health, should mandate all hospitals to appropriately comply with standard precautions.

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AUTHORS CONTRIBUTIONS

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