



KNOWLEDGE AND PRACTICE OF UNIVERSAL PRECAUTION AMONG HEALTH CARE WORKERS IN IMO STATE UNIVERSITY TEACHING HOSPITAL, ORLU

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ABSTRACT

This study was aimed at assessing the level of knowledge and practice of universal precaution among health care workers in Imo state University Teaching Hospital, Orlu. The findings of this study will be an important tool for sensitizing the health workers on knowledge of universal precaution to greater number of hospitals and also would form a base for further investigation on knowledge and practice of universal precaution in the hospitals. The research design used was descriptive research design and the sample size was collected using simple random sampling techniques after which total of 203 respondents were selected out of 411 health care workers (doctors, nurse and medical laboratory scientist) in IMSUTH, Orlu. A structured anonymous questionnaire was used to collect the data and a pilot study was conducted to test the reliability of the instrument. The collected data were analysed and presented on tables, pie chart, bar chart and a likert 3 point scale with a mean score of 2.0 and above as a joint of agreement and below as disagreement. From the study, it was found out that all respondents, that is, 203 (100%) are aware of universal precaution, its method and importance but this findings slightly varies with the practice. In conclusion recapping of used needles and not wearing of personal protective equipment (gowns and face mask) is prevalent in the health facility studied. Noncompliance with universal precautions place Nigerian HCWs at significant health risks. Training programs and other relevant measures should be put in place to promote the appropriate use of protective barrier equipment by HCWs at all times.

KEYWORDS: knowledge, practice, universal precaution, health care workers.

INTRODUCTION

Healthcare workers (HCWs) are at the risk of occupational hazards as they perform their clinical activities in the hospital. They are exposed to blood borne infections by pathogens such as Human Immune Deficiency Virus, hepatitis B and hepatitis C Viruses from sharp injuries and contacts with deep body fluids.

In an era of HIV epidemics in Sub – Sahara African, this occupational risk is real and significant. There is no immunization for HIV and Hepatitis C so it is important to prevent infection by preventing exposure. Since identification of patients with blood borne pathogens cannot be readily made by medical history and physical examination, universal precaution were recommended by the Centre of Diseases Control (CDS) to be used on all patients.

Universal precautions refers to practice in medicine of avoiding contact with patients body fluids, by means of wearing non – porous articles such as wearing of medical gloves, goggles and face shields. Universal

precautions are a set of precautions designed to prevent transmission of Human Immune Deficiency Virus (HIV), Hepatitis B Virus (HBV) and other blood –borne pathogens when providing first aid or health care (Centre of Disease Control and prevention, 2012). The practices of universal precaution were adjusted by a set of rules known as body substance isolation. In 2013, both practices were replaced by the latest approach known as isolation precautions.

Universal precautions are used with the assumption that a hazard exist, whether it actually does unless proven otherwise. Therefore protective measures are used until the hazards is proven not be in existence. However they are used because the consequence of a hazard is proven not to be in existence. However they are used because the consequences of a hazard far out weight the troubles and cost of using precautions. It was estimated that among 35 million health care workers worldwide about 3 million receive precaution exposure to blood – borne pathogen each year, 2 million of these people are exposed to Hepatitis B Virus (HBV), 0.9 million to

Hepatitis C Virus (HCV) and 100,000 to Human Immune Deficiency Virus (HIV). It was further documented that at least half a million people get infected every year in developing countries through unsafe medical care example Nigeria (World Health Organization, 2013).

The first tiers of universal precaution called standards precaution is designed for the care of all patients in the hospital and it is the primary strategy for preventing Health Care Association Infections (HAIs). Standard precautions prevent the spread of infection from blood, all body fluids secretions and excretions (except sweat) even if blood, all body fluids secretions and excretions (except sweat) even if blood is not visible, non- intact skin (skin with open breaks) and mucous membrane. This method involves hand –hygiene, use of mask, eye protection or face shield and safe injection precaution equipment or items in the patient’s environment, wearing of gloves for direct contact with the patient, proper cleaning or disinfecting or sterilizing of equipment before being used on another patient.

The second tier, called Transmission Based precautions are designed for the care of patient with known or suspected infectious diseases spread by air borne, droplet or contact routes and this methods involves isolation of patients and barrier nursing (Smeltzer, et.al, 2008). The difference in knowledge of universal precautions by health care workers may be influenced by their varying types of training, working experience and their gender. The absence of an enabling environment in health institution such as lack of constant running water or shortage of personal protective equipment will lead to poor practice of universal precaution by various types of health care workers.

Usually the core health professionals who are at the risk of getting this infection are the doctors the nurses and the medical laboratory scientists. The reason is because they are often in direct contact with all categories of patients in the hospital. The area where these precautions are significantly necessary include in performing surgical operations, taking of blood samples, physical examination, conducting of deliveries, waste disposal facilities, giving of injections and wound dressing. Despite the aggressive information dissemination effort the practice is still less than satisfactory (cumulative index of Nursing and Allied Health Literature, 2011). Health care workers must be aware that safe work practices and incorporate these practices in their routine they must adopt universal precautions that will protect them from exposure thereby reducing the risk of being infected.

Purpose of the Study

The purpose of the study is to determine the knowledge and practice of universal precaution among health care worker in Imo State University Teaching Hospital, Orlu.

MATERIALS AND METHODS

Area of the study

This research was carried out at Imo State University Teaching Hospital, Orlu.

Target Population

The target population of this study was four hundred and eleven (411) health care workers in Imo State University Teaching Hospital Orlu, Imo State. These 411 health care workers comprises of 176 doctors, 200 nurses, and 35 medical laboratory scientist.

Sampling Techniques

In other to have a concise study the researcher used stratified random sampling technique. Stratified random sampling involves the division of a population into smaller group known as Strata. A random sample from each stratum taken in a number proportional to the stratum size when compared to the population. A sample size of two hundred and three (203) health care workers was used as the sample size following Yamane 1967 formulae for determine sample size as cited by Israel (2013). i.e.

Ethical Consideration

Written permission was obtained from the Head of Department of Nursing Science Imo State University (IMSU). An informed voluntary consent was obtained from the subjects to be used for the study. The respondent right was respected and confidently and privacy were equally maintained. Good interpersonal relationship was created with the respondents. The study was carried on as it did not impose any risk to the subjects.

Method of Data Analysis

Data collected were tallied and analysed using frequency and percentage and likert 3 points scales. Data were represented using tables, bar and pie charts.

RESULT

Section A: (Demographic Data)

Table 1, 2, 3: showing the gender, Age and Year of working experience of the respondents.

Gender	Frequency	Percentage %
Male	75	36.9%
Female	128	63.1%
Total	203	100%
Age	Frequency (F)	Percentage (%)
21 – 30 years	73	36.0%
31 – 40 years	93	45.8%
41 – 50 years	26	12.8%
50 years and above	11	5.4%
Total	203	100%
Year of working experience	Frequency (F)	Percentage (%)
5 years	82	40.39 (%)
6 – 10 years	46	22.60 (%)
11 – 15 years	55	27.10(%)
16 years and above	20	9.85 (%)
Total	203	100 (%)

Results 1, 2, and 3 above gender table shows that 74 (36.9%) of the respondents were males, where as 128 (63.1%) were females.

The above age shows that 73 (36%) respondents are within 21 – 30 years, 93 (48.8%) of the respondents are within 31 – 40 years, 26 (12.8%) of the respondents are within 41 -59 years whereas 11 (5.4%) are within 50years and above.

While year of working experience shows that 82 (40.39%) of the respondents has worked for 0-5 years. 46 (22.10%) of the respondents has worked for 6 -10 years, 55 (27.10%) of the respondents has worked for 11 – 15 years whereas 20 (9.85%) has worked for 10 years and above.

Table 5: What are the respondents source of information.

Serial number	Responses	A	D	U	Total score	Mean score	Remark
A	Television/radio	67	72	64	409	2.0	Agreement
B	Newspaper/ poster	37	151	15	391	1.9	Agreement
C	Friends/Colleagues	97	56	50	453	2.2	Agreement
D	School	137	60	6	537	2.2	Agreement
E	Seminar/ conference	130	23	50	486	2.4	Agreement

n = 203

Results: The above shows that respondents agreed getting information from sources 1, c, d, e whereas respondents disagreed getting information from source b.

Table 7: What are the respondents agreement on the importance of universal precaution.

Response	Frequency (F)	Percentage (%)
Yes	203	100%
No	-	0%
Total	203	100%

Section B

Objective 1: to find out the level of knowledge of universal precaution among healthcare workers.

Table 4: What are the respondents awareness of universal precaution.

Response	Frequency (F)	Percentage (%)
Yes	203	100%
No	-	-
Total	203	100%

Results: The above table revealed that 203 (100%), meaning that all the respondents have heard of universal precautions.

Results: The above table showed that all the respondents indicated that universal precaution is important.

Table 8: what are the respondents indications on the importance of universal precaution.

Serial number	Responses	A	D	U	Total score	Mean score	Remarks
A	The prevention of HIV, HBV, HCV Transmission.	170	30	3	573	2.8	Agreement
B	The reduction of risk of exposure from all recognized and unrecognized source of infection	180	10	13	573	2.8	Agreement
C	Increase in patient confidence	134	60	9	539	2.7	Agreement
D	Protection of patient from nonsocomial infection in the hospital	134	60	9	531	2.6	Agreement
E	Prevention of cross infection in the hospital	153	30	20	539	2.7	Agreement
F	Increase in health care workers confidence	94	50	59	441	2.2	Agreement

n = 203

Results: The table shows that the respondents agreed with options a, b, c, d, e and f as the importance of universal precaution. There was no disagreement.

Objectives 3: To find out if healths care workers in Imo State University Teaching Hospital, Orlu practice universal precaution.

Table 9: What are the respondents responses on the practice of universal precaution.

Responses	Frequency (f)	Percentage (%)
Yes	203	100
No	-	0
Total	203	100

Results: The table above revealed that all the respondents said that they practice universal precaution.

Table 10: What are the methods of universal precaution mostly practice by the respondents.

Serial number	Responses	A	D	U	Total	Mean score	Remarks
A	Hand washing	138	65	0	549	2.7	Agreement
B	Wearing of gloves	167	26	10	563	2.8	Agreement
C	Wearing of gowns	40	60	103	343	1.7	Disagreement
D	Face protection	38	60	105	339	1.7 1	Disagreement
E	Proper disinfection and sterilization	106	90	7	505	2.4	Agreement
F	Recapping of used needles	50	10	143	313	1.5	Disagreement
G	Safe disposal of sharps	45	30	128	323	1.6	Agreement
H	Cover finger and cut, bruises	124	72	72	532	2.6	Agreement

Results: The above table showed that there is an agreement in option a, b, e, g and a disagreement in option c, d and f.

Results: The above showed that 126 (62.1%) of the respondents has been vaccinated with hepatitis B vaccine while 77 (37.9%) of the respondents has not been vaccinated.

Table 11: What are the respondents responses in hepatitis B Vaccination.

Responses	Frequency (F)	Percentages
Yes	126	62.1%
No	77	37.9%
Total	203	100%

Table 12: showing the respondents reason for not vaccinated with hepatitis B.

Serial number	Responses	A	D	U	Total score	Mean score	Remark
A	High-cost	10	64	3	161	2.0	Agreement
B	Non-availability	38	9	30	162	2.1	Agreement
C	Time problem	10	64	3	161	2.0	Agreement
D	Negligent	60	7	10	204	2.6	Agreement
E	Ignorant	40	20	17	177	2.2	Agreement
F	Accessibility	10	62	5	159	2.0	Agreement

n = 77

Results: In table 12 above, respondents agreed that options are their reason for not being vaccinated against Hepatitis B Virus.

Objectives 4: To find out the factors that hinders the practice of universal precaution among health care workers in Imo State University Teaching Hospital, Orlu.

Table 13: What are the respondents respond on the factors that hinders the practice of universal precaution.

Serial number	Responses	A	D	U	Total score	Mean	Remark
A	Inadequate knowledge of universal precaution	111	75	0	483	2.6	Agreement
B	Lack of precaution	155	22	9	518	2.8	Agreement
C	Lack training of staff on the techniques	105	74	7	470	2.5	Agreement
D	Lack of time to wear the protective device in cases of emergency	78	100	8	442	2.4	Agreement
E	Work stress	60	120	6	426	2.3	Agreement
F	Lack of adequate supply of water	96	30	600	408	2.1	Agreement

In table 13 above, there was an agreement that all the options are factors that hinders the practice of universal precautions.

DISCUSSION

This chapter discusses the major findings of the study and their interpretations. The discussion was carried out based on the objectives of the study. The under listed headings were used to discuss this chapter.

Findings on whether they have heard of universal precaution showed that all the health care workers are aware of universal precaution showed that all the health care workers are aware of universal precaution 203 (100%).

Using likert scale to determine the source of information revealed that health care workers agreed with option a,c,d,e and disagreed in option b only. This represents a high level of knowledge of universal precaution.

Further findings on the health care workers understanding of what universal precaution is, showed agreement in all the options, this results show that the risk of occupational hazards as they perform their clinical activities in the hospital is greatly minimized. This contradicts the findings of Abudulraheen, Amodu, Saka, Bolarinwa & Uthman (2012) that health care workers in North Eastern Nigeria had poor knowledge of universal precaution as less than one-fifth (13%) of the respondent have adequate knowledge of it but the findings concur with the findings of Dhaliwal et.al (2011) that 100% of Doctors, 80% of staff nurses and 82% of medical laboratory Scientists had knowledge of universal precaution.

Results on if universal precaution is important showed that all the respondents agreed that it is important. Using likert in all the options. This finding is in accordance with Walsh & Crumbie (20013) who states that universal precaution protects the patient from other pathogens since there are most likely to be found in the body fluid and transmitted between patients on the hand on staff and

he further stated that it helps to maintain patients confidence. Holy & Richmond (2009) stated that universal precaution protects against transmission of blood-borne viruses in the health care setting and also reduces the potential for sigma and discrimination.

Finding on whether health care workers practice universal precaution showed that all the respondents practice universal 203 (100%). Using likert scale to determine the methods of universal precaution they practice most showed an agreement in option a,b,e,g,h and a disagreement in option c,d, and f. this represents an unsatisfactory level of practice of universal precaution by these health care workers.

Further findings on health care workers responses on hepatitis B vaccination showed that 126 (62.1%) of the health care workers had been vaccinated while 77 (37.9%) had not been vaccinated against hepatitis B virus showed an agreement in option a, b, c, d, e, f and a disagreement in option c only. This finding is concurrent with the findings of Sadoh et. Al (2013) that about a third of all respondents always recapped used needles. Less than two-third of respondents (63.8%) always used personal protective equipments and more than half of all respondents (56.5%) never worn goggles during deliveries and at surgeries. A high percentage (94.6%) of HCWs observed hand washing after handling patients.

Dhaliwal *et al.* (2011) also documented that (18.4%) use protective eyewear, (34.5%) use protective outer clothes, use grumshoe (footwear).

Objectives 4: To find out the factors that hinders the practice of universal precaution among health care workers in Imo State University Teaching Hospital, Orlu. Findings on whether there are factors hindering the use of universal precaution showed that 186 (91.6%) of the respondents indicated that there are factors that hinders the use of universal precaution whereas only 17 (8.4%) indicated that there are no factors that hinders the use of universal precaution.

Further findings on the factors hindering the practice of universal precaution using likert scale showed an agreement in all options. This findings is in agreement with Baltrami (2013) stated that the most important factor influencing universal precaution practice is the lack of provision of adequate protective equipments other factors include carelessness, lack of display of universal precaution guidelines, emergency nature of procedures, insufficient water supply, patient perceived to be at low of blood – borne pathogens, pressure at times and universal precautions technique skill.

CONCLUSION

Base on the findings, the researcher concludes that the health care workers in Imo State University Teaching Hospital, Orlu have good knowledge of universal precaution, its importance and factors hindering the practice. They practice universal precaution but the extent/level is unsatisfactory, Universal precaution is of immense benefit to patient, health care workers, visitors and the nation at large so as it should be encouraged.

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