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Knowledge, Attitude and Practice of Standard Precautions among Health Care Workers in Some Selected Clinics in Esan Central Local Government Area, Edo State

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ABSTRACT

Standard precautions constitute the primary strategy for nosocomial infection control in the hospital. This study determined the knowledge, attitude and practice of standard precautions among health workers in some selected clinics in Esan Central Local Government Area, Edo State. Descriptive survey research design was used for the study. Forthy three (43) male and female health workers, were recruited using census method. The instrument used for data collection was self-structured questionnaire. Data was analyzed using simple percentage. The result showed that majority (82 percent) of the respondents had knowledge of standard precaution, (76 percent) of them observe standard precaution and all 43(100 percent) of the respondents do apply standard precaution to all individuals and patients regardless of their presumed health status. The result shows that the attitude of the health workers towards standard precaution, the study showed that (74 percent) of the respondents have positive attitude towards standard precaution. Based on study on the practice of standard precautions by health workers, it showed that (100 percent) of the respondents practice standard precautions and all of them

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affirmed that practice standard precautions improve their work. This study shows that majority of the respondents are familiar with standard precaution in the study area. The study showed that there was high rate of compliance by the health workers in health care centres in Esan Central Local Government Area. Based on the knowledge of health workers towards the utilization of standard precautions, all the respondents (82 percent) attest to fact that they have heard of the word standard precaution and they practice standard precaution. The practice of standard precaution among health workers should continue to be encouraged. Therefore, is recommended that a comprehensive infection prevention and control (IPAC) program should be developed at all levels of healthcare in Nigeria, namely federal, state, local government and health facility levels. Such program, among other things, should include basic measures of infection prevention and control.

Keywords: Knowledge, Attitude, Practice Standard Precaution, Health Workers

INTRODUCTION

Standard precautions (SPs) are the basic infection prevention practices that apply to all patients all the time regardless of the diagnosis of the patient, in any setting where health care is required (Okon, 2021). These practices are designed to protect the healthcare workers (HCWs) and at the same time, prevent them from spreading the infection to and among patients they care for. It is generally known that health care workers often come in contact with bloodborne pathogens and other microorganisms, and this exposure commonly occurs during major or minor surgical procedures, routine clinical and nursing services and disposal of sharps, as well as during lifesaving emergency procedures (Garni and Alseragi, 2020) of exposure, following a needlestick injury (Akagbo, Nortey & Ackumey, 2020). Occupational exposure of health workers to bloodborne infections, mainly through needlestick and other sharp injuries, has become a significant concern in developing countries. In Africa, the incidence of sharps injuries among HCWs is estimated to be about 2.1% per year (Akagbo, Nortey & Ackumey, 2020) Due to this concern, the Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) introduced "Universal Precautions" in 1985, to protect health care workers who come in contact with patients' blood and body fluids from infections.

In 1996, this concept was further expanded and changed to the term Standard Precautions which is a set of measures formulated to prevent transmission of bloodborne diseases when providing health care regardless of the diagnosis or infectious status of the patient (Otovwe & Adidatimi, 2019). The components of standard precaution include hand hygiene, use of personal protective equipment (e.g. gloves, masks, goggles), respiratory hygiene/cough etiquette, sharps safety (engineering and work practice controls), safe injection practices (i.e., an aseptic technique for

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parenteral medications), sterile instruments and devices, clean and disinfected environmental surfaces, waste management, education and training (Otovwe & Adidatimi, 2019).

The knowledge and adherence with these set of practices by health care workers vary from region to region and by the level of health care services involved (Isara & Ofili, 2021). It has been observed that attention to capacity building of health workers’ on SP is disproportionately skewed in favour of those practising at the tertiary facilities compared to those at the primary and secondary healthcare facilities. For instance, a crosssectional survey conducted in 2012 to assess the knowledge, attitude and practice of standard precaution of infection control among healthcare workers in two tertiary hospitals in Nigeria, revealed a percentage median knowledge score of 90%, with 97% of the respondents knowing that standard precautions should be practised on all patients and laboratory specimen irrespective of diagnosis (Isara & Ofili, 2021).

Conversely, a study carried out among health workers in Primary Health Care levels in Enugu, Southeast Nigeria revealed that there were serious knowledge deficits on the meaning, aim and components of SPs especially those related to hand hygiene, sharps disposal, and the management of sharps injuries. Similarly, in another study conducted at Mizan-Aman General Hospital, Southwest Ethiopia, the researchers concluded that the majority of health care workers' knowledge, attitude and practice toward standard precaution were not sufficient, favourable and safe enough to the expected standard (Ogoina, Pondei, Adetunji, Chima, Isichei & Gidado, 2020).

The attitude of some health workers towards hand washing, if improved can help reduce the transmission of micro-organisms. According to Sobayo (2018), patient may develop urinary tract infection due to improper care of urethral catheter, wound infection due to poor operative technique, use of improperly sterilized instrument and inadequate care of wound, phlebitis and septicaemia due to improper handling of intravenous infusion administration. All these are unnecessary infections and lead to extra cost to hospital and the patients.

Failure to comply with policies and procedures that support the reduction of hospital acquired infections (HAIs) is a recognized and complex problem that may be contributing to the current trend in the world (Damina, 2016). Research has identified varying degree of noncompliance with standard precaution. According to Centre for Disease Control (2018), limited knowledge, lack of facilities and poor working environment are commonly cited as barriers to compliance. WHO (2020) opined that the risk of professional exposure to viruses is compounded by restricted size of staff in many health units, the lack of basic protective equipment, cleaning materials and deficit knowledge contributed to poor compliance.

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Studies on knowledge, attitude and practice of standard precautions has been investigated by scholars. Esu, Okeke and Gobir (2019) conducted a study on factors affecting compliance with standard precautions among healthcare workers in public hospitals Abuja, Nigeria. A cross-sectional survey of 332 health care workers involved in clinical practices from 19 Government health facilities in North central Nigeria. Of 332 participants interviewed, knowledge was above average in 274 (82.6%) of the respondents out of which 141 (42.5%) had good knowledge and 133 (40.1%) had fair knowledge. Majority of the respondents (76.2%) were compliant with SPs. Factors significantly affecting health care worker's compliance type of health facility (p=0.022) and years of practice (p=0.044)

Arinze-Onyia, Ndu, Aguwa, Modebe and Nwamoh, (2018) carried out a study on knowledge and practice of standard precautions by health- care workers in a Tertiary Health Institution in Enugu, Nigeria. This descriptive study was done in October 2014 among 629 HCWs at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu State. it was reported that the HCWs studied were 629, mostly females (64.4%), married (62.3%), Christians (94%), and within 20–59 years. Majority were nurses (46.1%) working in the wards. Over 90% of respondents had heard of SP, mainly from formal training (62%). Over 70% could define SP, 74.6% had knowledge of when SP is needed and >70% identified most components of SP. Over 90% agreed that SPs are useful and that employers should provide SP training. Most respondents washed hands after removal of gloves (73.6%) and before leaving patient's care area (33.1%). More than 70% had been exposed to patient's body fluids and washed the exposed part with water, soap, and disinfectant (52.1%). Gloves were the most commonly used personal protective equipment (PPE) (53.4%) and the major reason for inconsistent use was irregular access (57.7%). Over 50% recap needles before discarding. Exposure to patients' serum was significantly higher among doctors and nurses $P < 0.05$, while the use of PPEs was highest among the laboratory scientists (82.4%). Those who were trained on SP (70.8%) and PPE (69.7) were significantly more likely to use PPEs, $P < 0.05$.

Ogoina, Pondei, Adetunji, Chima, Isichei and Gidado (2021) Knowledge, attitude and practice of standard precautions of infection control by hospital workers in two tertiary hospitals in Nigeria and reported thata total of 290 HCW participated in the study (76% response rate), including 111 (38.3%) doctors, 147 (50.7%) nurses and 32 (11%) laboratory scientists. Overall median knowledge and attitude scores toward standard precautions were above 90%, but median practice score was 50.8%. The majority of the HCW had poor knowledge of injection safety and complained of inadequate resources to practise standard precautions. House officers, laboratory scientists and junior cadres of nurses had lower knowledge and compliance with standard precautions than more experienced doctors and nurses. The results suggest generally poor

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compliance with standard precautions of infection control among HCW in Nigeria. Policies that foster training of HCW in standard precautions and guarantee regular provision of infection control and prevention resources in health facilities are required in Nigeria.

Abuduxike, Vaizoglu, Asut and Cali (2021) conducted a study on the assessment of the knowledge, attitude, and practice toward standard precautions among health workers from a hospital in Northern Cyprus. A cross-sectional study was conducted in a teaching hospital among 233 health workers using a self-administrated questionnaire. It was reported that the mean age of the participants 32.95 (SD _ 9.70) and 62.2% of them were women. 57.5% of the staff had a satisfactory level of correct knowledge (>5 correct answers), 37.3% had a satisfactory positive attitude (>3 correct answers), and 30.9% had a satisfactory practice (>3 correct answers) towards standard precautions. The occupation was one of the predictors as doctors were less likely to have satisfactory knowledge and practice compared to nurses (OR ¼ 0.269, 95% CI: 0.10-0.70 and OR ¼ 0.248, 95% CI: 0.08-0.77, respectively). Out of 174 participants, 31.6% of them reported experiencing NSIs and support staff were 71% less likely to experience NSIs compared to nurses & paramedics.

In most developing countries including Nigeria there has been much concern about knowledge and adherence to standard precaution by health care workers. Most health care workers do not have knowledge about safety precaution and that makes it difficult for them to adhere to it. A study conducted in Lagos, Western Nigeria observed that lack of compliance to standard precaution was primarily due to lack of knowledge (Akeem, Abimbola & Idowu, 2021). This study highlights a need to implement a programme to improve knowledge of SP to prevent occupational accidents.

Also a study done in Northern Nigeria among health workers in a tertiary health institution showed that some health care workers do not recognize vaccination (19.2%), PEP (19.2%), and surveillance for emerging disease (28%) as standard precaution for infection control (Nwamoh, 2020). It is this widespread lack in knowledge that is partly responsible for the poor attitude and practice of standard precaution and the consequent high rate of occupational accidents in Nigeria. A similar study among health workers in Kwara also reported that only 32.4% of the HCWs protect themselves regardless of the patient's diagnosis (Odusanya, 2021).

The Occupational Safety and Health Administration (2012) estimates that 5.6 million HCWs worldwide, who handle sharp devices, are at risk of occupational exposure to blood-borne pathogens. Needle stick injuries were shown to be the commonest (75.6percent) mechanism for occupational exposure in a Nigerian teaching hospital (Orji, Fasubaa & Onwudiegwu, 2019). These injuries are usually under-reported for so many reasons, which include stigma that could

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be associated with an eventual infection with HIV in the affected health workers. There is no immunization for human immune virus and hepatitis C virus, thus the most effective prevention is through regular practice of the standard precautions. Hence the need to assess the knowledge, attitude and practice of health workers towards standard precautions in some selected clinic in Esan Central local Government Area by answering the following research questions.

RESEARCH QUESTION

1. What is the knowledge of health workers towards the utilization of standard precautions in some selected clinic in Esan Central local Government Area, Edo State?

2. What are the attitude of health workers towards the utilization of standard precautions in some selected clinic in Esan Central local Government Area, Edo State?

3. What are the practice of standard precautions among health workers in some selected clinics in Esan Central local Government Area, Edo State?

METHOD

The research design used for this study was a descriptive survey research study to determine the knowledge, attitude and practice of standard precautions among health workers in some selected clinics in Esan Central Local Government Area, Edo State. The target population for this study are health care workers in some selected health centres in Esan central Local Government area comprising of Doctors, Nurses and Medical laboratory scientists of about forty-three (43) in the selected clinics including Eguare, Opoji, Emu and Ugbegun health care centres. Census method was used for this study. This method involves statistical enumeration where all members of the staff of each selected clinics with a total number of 43 population were studied. The tool for data collection was a researcher-administered questionnaire. The questionnaire had four sections. The first section contains five (5) items, second section contains five (5), third section contains seven (7) and fourth section contains four (4) items making a total of 21 questions.

The reliability of the instrument was provided through pilot study done using four (4) participants as 10% attrition rate in Ukpenu health Care Centres, Ekpoma, Edo State for test and retest and the final copy of the instrument was adopted after ensuring the instrument was able to measure what it intended to measure. After calculation, it was found reliable for the instrument using Cronbach's alpha coefficient at 0.9. Forty-three (43) copies of questionnaires were administered to health workers in the selected clinic in Esan central local Government Area, Edo state with the assistant of three students. The data obtained from the different areas of study were analyzed using simple percentages and frequencies and they were represented in tables.

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Result.

Table 1: Frequency and Percentage Analysis on Knowledge of the Respondents on Standard precaution (N =43)

Variable	Attribute	Frequency	Percent (%)
Have you heard of the word standard precautions?	Yes	35	81.40
	No	8	18.60
Do you deserve standard precaution?	Yes	33	76.74
	No	10	23.26
Where was your source of information on standard precaution	School	22	51.16
	Seminars	11	25.58
	Mass Media	8	18.60
	Others	6	13.95
Does standard precaution apply to all individuals and patients regardless of their presumed health status?	Yes	43	100.0
	No	-	
Do you apply standard precaution when patient are bleeding?	Yes	34	80.0
	No	9	20.0

Table 1 shows the Frequency and Percentage Analysis on Knowledge of the Respondents on Standard precaution. It shows that 35(81.40%) of the respondents affirmed that they have heard of the word standard precaution while 8(18.60%) of the respondents said no to the question. 33(76.74%) of respondents affirmed that they observe standard precaution while 10(23.26%) said no to the question. All 43(100 percent) of the respondents said they apply standard precaution to all individuals and patients regardless of their presumed health status. 34(80 percent) of the respondents said Yes that they do apply standard precaution when patient are bleeding while 9(20 percent) of the respondents said they do not apply standard precaution when patient are bleeding. It also shows that the highest source of information on standard precaution was 22(52 percent) got the information on standard precaution from school, while the least 8(18 percent) got their information from seminars.

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Table 2: Frequency and Percentage Analysis on Attitude of the Respondents on Standard precaution

Items	Yes	No	Total
Do you think that standard precautions are stressful to practice?	30 70%	13 30%	43 (100%)
Do you have positive attitude towards standard precaution?	32 74%	11 26%	43 (100%)
Do you have negative attitude towards standard precaution?	11 26%	32 74%	43 (100%)
Do you think that lack of personal protective equipment can influence the attitude of nurses towards the compliance with standard precaution?	28 65%	15 35%	43 (100%)
Do you think that insufficient time can influence the attitude of nurses towards the compliance with standard precaution?	30 70%	13 30%	43 (100%)
Do you think that application of standard precaution can save life?	36 84%	7 16%	43 (100%)
Will you apply standard precautions on all situations in the care of clients and family members?	38 90%	5 10%	43 (100%)

Table 2 shows the percentage distribution of respondents on their attitude towards Standard precaution. 30(70 percent) said yes that they that standard precautions are stressful to practice, while 13 (30 percent) of them said no to the question. 32(74 percent) said yes that they have positive attitude towards standard precaution, while 11(26 percent) of them said no to the question. 11 (26 percent) of the respondents agrees that they have negative attitude towards standard precaution, while 32(74 percent) of them said no to the question. 28(65 percent) of the respondents said that they think that lack of personal protective equipment can influence the attitude of nurses towards the compliance with standard precaution while 15(35 percent) of the respondents said no. 30(70 percent) percent of the respondents said yes that they think that insufficient time can influence the attitude of nurses towards the compliance with standard precaution, while 13(30 percent) of the them said no to the question. 36(84 percent) of the respondents said yes that they agree that application of standard precaution can save life while 7(16 percent) of the respondents said that they do not agreed that application of standard precaution can save life. 38(90 percent) of the respondents affirm that they will apply standard

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precautions on all situations in the care of clients and family members while 5(10 percent) of the respondents said that they will not apply standard precautions on all situations in the care of clients and family members.

Table 3: Frequency and Percentage Analysis of practice of standard precautions

Variables	Yes	No	Total
Do you practice standard precautions?	43 100%	-	43 (100%)
Can practice standard precautions improve your work?	43 100%	-	43 (100%)
Do you follow recommended guide lines for use of alcohol and other antiseptics after lifting and moving patient as part of standard precautions?	34 80%	9 20%	43 (100%)
Do you discard wastes immediately in to their container as part of standard precautions?	43 100%	-	43 (100%)

Table 3 shows the percentage distribution of respondents on practice of standard precautions. It shows that 43(100 percent) of the respondents practice standard precautions and all of them affirmed that practice standard precautions improve their work. 34 (80 percent) of the respondents agrees that they follow recommended guide lines for use of alcohol and other antiseptics after lifting and moving patient as part of standard precautions, while 9(20 percent) of them said no to the question. 43(100 percent) of the respondents said that they discard wastes immediately in to their container as part of standard precautions.

DISCUSSION

This analysis in table 4.2 showed that majority (82 percent) of the respondents have heard of the word standard precaution, (76 percent) of them observe standard precaution and all 43(100 percent) of the respondents do apply standard precaution to all individuals and patients regardless of their presumed health status. The result supports that of. Esu, Okeke and Gobir (2019) conducted a study on factors affecting compliance with standard precautions among healthcare workers in public hospitals Abuja, Nigeria. The result showed that majority of the respondents (76.2%) were compliant with SPs. Factors significantly affecting health care worker's compliance type of health facility (p=0.022) and years of practice (p=0.044

The study showed that (74 percent) of the respondents have positive attitude towards standard precaution. The result is in line with that of Arinze-Onyia, Ndu, Aguwa, Modebe and Nwamoh,

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(2018) carried out a study on knowledge and practice of standard precautions by health- care workers in a Tertiary Health Institution in Enugu, Nigeria. The result revealed that more than 70% had been exposed to patient's body fluids and washed the exposed part with water, soap, and disinfectant (52.1%). Gloves were the most commonly used personal protective equipment (PPE) (53.4%) and the major reason for inconsistent use was irregular access (57.7%). Over 50% recap needles before discarding. Exposure to patients' serum was significantly higher among doctors and nurses $P < 0.05$, while the use of PPEs was highest among the laboratory scientists (82.4%). Those who were trained on SP (70.8%) and PPE (69.7) were significantly more likely to use PPEs, $P < 0.05$.

The analysis on the practice of standard precautions by health workers, showed that (100 percent) of the respondents practice standard precautions and all of them affirmed that practice standard precautions improve their work. The result is in line with that of Ogoina, Pondei, Adetunji, Chima, Isichei and Gidado (2021) who found thattThe majority of the HCW had poor knowledge of injection safety and complained of inadequate resources to practise standard precautions. House officers, laboratory scientists and junior cadres of nurses had lower knowledge and compliance with standard precautions than more experienced doctors and nurses. The results suggest generally poor compliance with standard precautions of infection control among HCW in Nigeria. Policies that foster training of HCW in standard precautions and guarantee regular provision of infection control and prevention resources in health facilities are required in Nigeria. The result supports that of Abuduxike, Vaizoglu, Asut and Cali (2021) who conducted a study on the assessment of the knowledge, attitude, and practice toward standard precautions among health workers from a hospital in Northern Cyprus. The result showed that out of 174 participants, 31.6% of them reported experiencing NSIs and support staff were 71% less likely to experience NSIs compared to nurses & paramedics

Implication for Counselling Education

Counsellors educators as part of health workers are known to be involved in caring and promotion of healthy leaving in the health sector and the society in general. As reported in this study, this professional's practices standard precaution in their various health centres. It known that counselor education practice is the application of counsellor educators knowledge, skill and judgment to promote, maintain, and restore health, prevent illness and alleviate suffering. If standard precaution is continually practice by the counsellors it will promote good health delivery services.

This study shows that majority of the respondents are familiar with standard precaution in the study area. The study showed that there was high rate of compliance by the health workers in

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health care centres in Esan Central Local Government Area. Based on the knowledge of health workers towards the utilization of standard precautions, all the respondents (82 percent) attest to fact that they have heard of the word standard precaution and they practice standard precaution. The practice of standard precaution among health workers should continue to be encouraged.

Recommendations

Based on the findings of the study, the following recommendations are made to improve knowledge and attitude of health workers towards standard precautions in health care centres in Esan Central Local Government Area of Edo State.

- ❖ A comprehensive infection prevention and control (IPAC) program should be developed at all levels of healthcare in Nigeria, namely federal, state, local government and health facility levels. Such program, among other things, should include basic measures of infection prevention and control, which are:

- Standard and additional precautions
- Education and training of health care workers
- Protection of health care workers through immunization
- Identification of hazards and risks
- routine practices essential to infection control
- effective work practices and procedures such as waste management, surveillance and incident monitoring, outbreak investigations, and research (WHO 2004).

- ❖ The government should establish IPAC committees in the various health care centres through ministry of health and IPAC teams at the facility level.
- ❖ Health facility managers should ensure regular supply of personal protective equipment and other items required for IPAC in their facility.

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