

Assessment of knowledge and practice of standard precautions among nurses working at Federal Medical Centre Gombe, Nigeria

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Research Paper

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This study assessed the knowledge and practice of standard precautions among nurses working at Federal Medical Centre Gombe. The objectives of the study were to determine knowledge, compliance, factors hindering the practice of universal precautions as well as ways of improving the practice. A total number of one hundred and sixty (160) nurses working at FMCG participated in the study. The demographic indices show that the respondents have different category of ranks, years of service and are located across different ward/units of the hospital. Majority of the respondents 96 (60%) are however female while 64 (40%) are male. The study showed that nurses in FMCG have deficient knowledge about standard precaution as many of the respondents were not aware that standard precautions is applied to all patients irrespective of their diagnosis and only a few have good knowledge of the components of standard precautions. The study revealed that years

of experience has influence on practice of standard precaution. However, 32.5% of Nurses were not aware that standard precaution is applied to all patients irrespective of their diagnosis or presumed infection status and 71.25% have poor knowledge of the components of standard precautions. Sub-optimal utilization of protective devices was noted despite its availability. Negative attitude, limited knowledge and nursing personal were major barriers. In view of the above, change in behavior, mandatory seminars/workshops, and specific policies on universal precaution were strongly recommended. Nurses should endeavor to practice standard precaution always irrespective of the patient diagnosis or presumed infection status.

Key words: knowledge, practice, standard precaution, Gombe.

INTRODUCTION

Standard precautions constitute the primary strategy for nosocomial infection control in the hospital. It is applicable to all patients receiving care irrespective of their diagnosis or presumed infection status and covers blood, body fluids, secretions, excretions, non intact skin and mucous membrane (Sobayo, 2005). Pratt et al. (2007), also defined standard precautions as a measure that incorporate both universal precaution – designed to prevent transmission of blood-borne infections and body substance isolation designed to reduce the risk of transmission from other body substance. It is designed to protect both health care staff and patients from the risk

of cross infection.

It has been estimated that the prevalence of hospital acquired infections in tertiary hospitals in Nigeria is 2.6% (Ige et al., 2011). The challenge of achieving significant improvement in patient care is one of the task facing health care providers. A large number of people continue to be successfully cared for and treated in health facilities, however errors and other forms of harm occur (Knight and Bodsworth, 2000). It is pertinent to mention here that little resources are required to implement standard precautions. Hand washing as simple as it is, reduces the spread of diseases by removing bacteria,

viruses, other micro-organisms and chemicals that could have caused harm or diseases from hands (Suzzame et al., 2008). The attitude of some health workers towards hand washing, if improved can help reduce the transmission of micro-organisms. According to Sobayo (2005), 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, 2006). Research has identified varying degree of non-compliance with standard precaution. According to Centre for Disease Control (2002), limited knowledge, lack of facilities and poor working environment are commonly cited as barriers to compliance. WHO (2004) 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.

For more than two decades after the Centre for Disease Prevention and Control first, and subsequent documents were released, refined and mandated to be used for training and practice by all health personnel as a primary strategy to reduce the risk of transmission of micro-organisms, anecdotal observation in some units/wards of Federal Medical Centre Gombe showed poor/inconsistent hand washing, selective use of protective equipment such as gloves, eye goggles, apron and poor disposal of sharp consumables by health care providers. These practices posed high risks for the transmission of infections to the patients as well as the care providers. The resultant infection prolongs the patient's period of hospitalization, affects attention to family matters and additional financial burden which is sometimes difficult to meet up by many patients. The health workers are exposed to blood and other body fluids which lead to infections such as HIV and Hepatitis B following poor compliance to standard precaution hence the need to assess the knowledge and practice of standard precautions among nurses in Federal Medical Centre Gombe.

OBJECTIVES OF THE STUDY

The specific objectives of the study are;

- 1.To determine the knowledge of health care providers working in Federal Medical Centre, Gombe (FMCG) on standard precaution.

- 2.To examine the level of compliance to the implementation of standard precautions among health care providers in FMCG.

- 3.To identify factors that affects the practice of standard precautions among health care providers in FMCG.

- 4.To determine the perception of nurses on how to improving the practice of standard precautions in FMCG.

HYPOTHESES (H₀)

- 1.There is no significant association between the years of working experience of health care providers and the practice of standard precaution.

- 2.There is no significant association between awareness of health care providers and practice of standard precaution.

- 3.There is no significant association between awareness of standard precaution and vaccination against Hepatitis B virus.

- 4.There is no significant association between supply of protective materials and practice of standard precaution.

MATERIALS AND METHOD

Study Design

A descriptive cross-sectional survey design was adopted for this study because it deals with accurate and factual description and the summary of the actual situation.

Study Settings

The study was conducted in Federal Medical Centre Gombe which is located along Bajoga road in Gombe State northeastern Nigeria. The medical centre is a tertiary institution and has a total bed capacity of 410. Like other tertiary health institution, the Federal Medical Centre Gombe is saddled with the responsibility of preventive and curative health services as well as teaching and research. It serves as a referral centre for peripheral primary health care centers and general hospitals.

Target Population and Sampling Techniques

Registered nurses' working with Federal Medical Centre Gombe constitutes the population of the study. There were two hundred and seventy five (275) Nurses spread over all units of the hospital. The population comprised of junior, middle and senior nurses. Each ward comprises of about 15-20 Nurses which include male and female of varying age and different cultural background. A sample size of one hundred and sixty (160) respondents was

drown using systematic random sampling technique.

Instrumentation

A carefully designed and self-structured questionnaire with closed and open ended questions was used as the instrument for data collection. The questionnaire was made up of five (5) sections:- A, B, C, D and E.: Section A: Socio demographic characteristic of respondents. B: Knowledge of nurses towards standard precautions. C: Nurses compliance to practice of standard precaution. D: Factors that affect practice of standard precautions, while section E dealt with perceived ways of improving practice of standard precautions.

The instrument was validated by health experts and the reliability of the instrument was determined through a test-retest method using ten (10) copies of the questionnaire at the State Specialist Hospital, Maiduguri. The Pearson's product-moment coefficient (r) was calculated. The coefficient of 0.82 was determined which indicates the reliability of the instrument.

Method of data collection

The researchers obtained an ethical approval from the Ethical Committee of the Federal Medical Centre Gombe (FMCG), the sampling frame of the registered nursing staff was collected from the assistant director of nursing services of the medical centre. Using the sampling frame, the researchers systematically selected one hundred sixty (160) respondents. The selected nurses were informed about the objective of the study and its significance; hence copies of the questionnaire were distributed to the respondents through direct delivery method. One hundred and sixty completed copies of the questionnaire were retrieved after one day of administration. High level of confidentiality was maintained in the course of data collection.

Method of data analysis

Data collected was analyzed manually, descriptive statistics of frequencies and percentages were used to answer research questions while inferential statistics of Chi-square was used to test the research hypotheses at 5% level of significance.

RESULTS

Table 1 considered the age of respondents which shows that 30 (18.75%) were between 20 and 29 years, majority 70 (43.75%) were within the range of 30 – 39 years, 46 (28.75%) were between 40 and 49 years while 14 (8.75%)

were 50 and above years old. 64 (40%) of the respondents were males, while 96 (60%) were females. This implies that majority of the respondents in the study area were females.

Majority of the respondents 50 (31.25%) were between the rank of Nursing officer II and Nursing officer I, Senior nursing officers were 40 (25%), Principal nursing officers were 26 (16.25%), Assistant chief nursing officers were 24 (15%) while Chief nursing officers were 20 (12.50). 10 (6.25%) of the respondents spend less than one year in the service, 30 (18.75%), 1-5 years, 58 (36.25%), 6-10 years, 42 (26.25%), 11 – 15 years and 20 (12.5%) have served for 16 years and above. 20 (12.50%) of the respondents were working in the medical wards, 44 (27.5%) surgical/orthopaedic wards, 32 (20%) obstetrics and Gynaecology ward, 16 (10%) paediatrics/Special care baby unit while 48 (30%) were working in theatre, CSSD, Intensive care unit, accident/emergency and General outpatient department.

Table 2 shows that 142 (88.75%) of the respondents were aware of standard precautions and 18 (11.25%) were not. 18 (11.25%) of the respondents were of the view that, the conditions for which standard precautions is mandatory is in patient with HIV, 2 (1.25%) went for patients with Hepatitis B virus, 8 (5.00%) went for patients with nosocomial infection, 24 (15%) for seriously ill patient and 108 (67.5%) for all patients irrespective of their health status.

88 (55.0%) of the respondents were of the opinion that sterilization is the correct method of treating item that comes in contact mucous membrane, 50 (31.25%) said disinfecting those items is the idea method, 10 (6.25%) went for cleaning, and 12 (7.5%) were docile to the methods mentioned. 86 (53.75%) of the respondent attended update/seminar on standard precautions while 74 (46.25%) have not.

Figure 1 shows that 34 (21.25%) of the respondents can only mentioned one out of the five (5) components of the standard precautions hence score 1 points, 60 (37.5%) 2 points, 24 (15%) 3 points, 12 (7.5%) 4 points, 10 (6.25%) 5 points while 20 (12.5%) scored zero. Table 3 shows that 70 (43.75%) of the respondents always observe standard precautions in clinical practice, 90 (56.25%) sometimes and none of the respondents indicated that it is not necessary. 52 (32.50%) of the respondents were very satisfied with the supply of infection prevention materials, 96 (60%) satisfied and 12 (7.5%) were not satisfied.

88 (55%) of the respondents, were of the opinion that inconsistent use of protective materials such as gloves can lead to feeling of stigmatization by some patients and 72 (45%) said no. None of the respondent 0 (0%) agreed that hand washing in clinical practice should be done before procedure only. 52 (32.50%) were of the opinion that hand washing should be instituted after procedure, 98 (61.25%) said before and after procedure, 10 (6.25%) said it should be done following contact with body fluid.

Table 1. Socio-Demographic Characteristics of respondents

| Age of Respondents (years) | Frequency | Percentages (%) |
|--|------------------|------------------------|
| 20 – 29 | 30 | 18.75 |
| 30 – 39 | 70 | 43.75 |
| 40 – 49 | 46 | 28.75 |
| 50 and above | 14 | 8.75 |
| Total | 160 | 100 |
| Sex of Respondents | | |
| Male | 64 | 40 |
| Female | 96 | 60 |
| Total | 160 | 100 |
| Rank of Respondents | | |
| No. II – No. I | 50 | 31.25 |
| SNO | 40 | 16.25 |
| PNO | 26 | 25 |
| ACNO | 24 | 15 |
| CNO | 20 | 12.50 |
| Total | 160 | 100 |
| Years of Service of Respondents | | |
| Less than 1 year | 10 | 6.25 |
| 1 – 5 | 30 | 18.75 |
| 6 – 10 | 58 | 36.25 |
| 11 – 15 | 42 | 26.25 |
| 16 years and above | 20 | 12.5 |
| Total | 160 | 100 |
| Ward/units of Respondents | | |
| Medical wards | 20 | 12.50 |
| Surgical/orthopaedic ward | 44 | 27.50 |
| Obstetrics and Gynaecology | 32 | 20 |
| Paediatrics/SCBU | 16 | 10 |
| Theatre, CSSD, ICU, A/E & GOPD | 48 | 30 |
| Total | 160 | 100 |

Table 2. Knowledge of standard precautions.

| Awareness of standard precautions | Frequency | Percentages (%) |
|--|------------------|------------------------|
| Yes | 142 | 88.75 |
| No | 18 | 11.25 |
| Total | 160 | 100 |
| Condition for which standard precautions is mandatory | | |
| Patient with HIV | 18 | 11.25 |
| Patient with HBV | 2 | 1.25 |
| Nosocomial infection | 8 | 5.00 |
| Seriously ill patients | 24 | 15.00 |
| For all patients | 108 | 67.5 |
| Total | 160 | 100 |
| Showing views of respondents on the correct method of treating items that comes in contact with intact mucous membrane. | | |
| Sterilization | 88 | 55.0 |
| Disinfection | 50 | 31.25 |
| Cleaning | 10 | 6.25 |
| Wiping | 0 | 0 |
| None of the methods | 12 | 7.5 |
| Total | 160 | 100 |
| Attend update/seminar on standard precautions | | |
| Yes | 86 | 53.75 |
| No | 74 | 46.25 |
| Total | 160 | 100 |

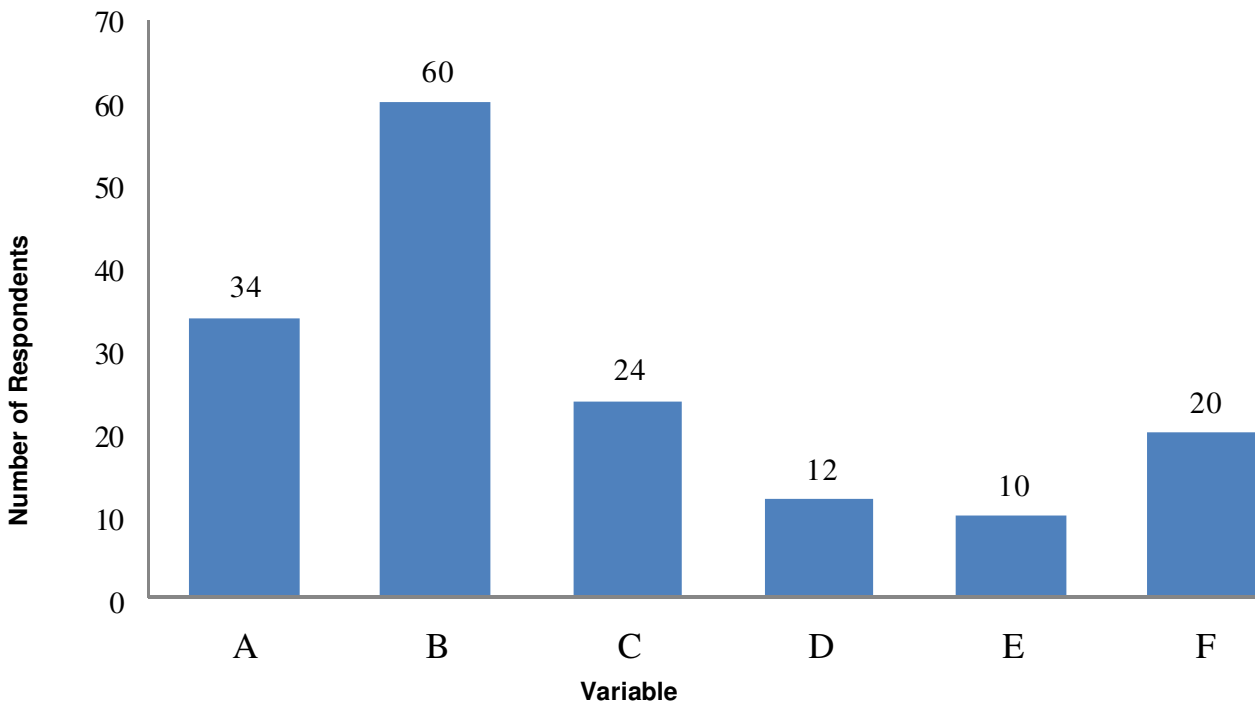


Figure1. A bar chart illustrating the components of standard precautions.

Key: A = 1 point, B = 2 points, C = 3 points, D = 4 points, E = 5 points, F = No point

1) Hand washing, (2) Sterilization/Decontamination, (3) Use of protective equipment

4) Appropriate disposal of sharps and waste,(5) Isolation, **Points:** each correct component is 1 point

38 (23.75%) of the respondents recap needle after use and 122 (76.25%) do not recap. 90 (56.25%) of the respondent said that there is a hospital policy of not recapping needle after use, 28 (17.5%) said 'No' while 42 (26.25%) do not know.

Majority of the respondents 128 (80%) disposed used syringe and needles in the safety box, 32 (20%) in the dust bin and none of the respondents 0 (0%) recap and drop on patient's bed side locker or give to patient/relation to dispose. 78 (48.75%) of the respondent indicated that there is an operational guideline in their ward/unit for the practice of standard precaution while 82 (51.25%) said no. 68 (42.5%) of the respondents have been vaccinated against Hepatitis B virus while majority 92 (57.5%) have not.

Figure 2 indicates the use of protective materials by the respondents. 110(68.75%) uses gloves always in clinical practice, 50 (31.25%) occasionally and 0 (0%) not at all. 20 (12.50%) of the respondent always uses mask 134 (83.75%) occasionally and 6 (3.75%) not at all. 24 (15%) of the respondent use goggles always, 64 (40%) occasionally and 72 (45%) do not use it at all. 64 (40%) of the respondent use apron always, 80 (50%) occasionally and 16 (10%) do not use at all.

Table 4 shows that 30 (18.75%) of the respondents were of the view that limited knowledge is a barrier to practice of standard precautions in FMCG, 20 (12.50%)

irregular supply of infection control materials, 18 (11.25%) work load, 20 (12.50%) limited nursing personnel, 2 (1.25%) time constraint, 4 (2.5%) protective equipment reduces my skills, 4 (2.5%) poor supervision, 34 (21.25%) negative attitude of health workers, 12 (7.5%), poor compliance by senior colleagues and 16 (10%) emergency situations.

Figure 3 indicates that 60 (37.5%) of the respondents were of the view that regular update/seminar can improve the practice of standard precautions in FMCG, 18(11.25%) subscribe to employment of more nurses, 10 (4%) said strict supervision, 36(22.5%) opined that health workers should improve on their attitude towards standard precautions, 14(8.75%) said senior colleagues should improve on practice of standard precautions, 6(3.75%) believed that hospital policy should be put in place to enforce practice of standard precautions and 18 (11.25%) said there should be regular supply of infection control materials.

Testing of hypotheses

The calculated chi-square (χ^2) 27.949 at 4 degree of freedom (df) is greater than the tabulated value of 9.488 at 0.05 level of significance; hence the null hypothesis is rejected. Therefore, there is a relationship between years

Table 3. Compliance to practice of standard precautions.

| Observance of standard precautions | Frequency | Percentages (%) |
|--|------------------|------------------------|
| Always | 70 | 43.75 |
| Sometimes | 90 | 56.25 |
| It is not necessary | 0 | 0 |
| Total | 160 | 100 |
| Supply of infection prevention/control materials | | |
| Very satisfied | 52 | 32.50 |
| Satisfied | 96 | 60 |
| Not satisfied | 12 | 7.5 |
| Total | 160 | 100 |
| Inconsistent use of protective materials such as gloves may lead to feeling of stigmatization by some patients. | | |
| Yes | 88 | 55 |
| No | 72 | 45 |
| Total | 160 | 100 |
| Hand washing in clinical practice | | |
| Before procedure only | 0 | 0 |
| After procedure | 52 | 32.50 |
| Before and after procedure | 98 | 61.25 |
| Following contact with body fluid | 10 | 6.25 |
| Sometime not at all | 0 | 0 |
| Total | 160 | 100 |
| Re-capping of needle after use | | |
| Yes | 38 | 23.75 |
| No | 122 | 76.25 |
| Total | 160 | 100 |
| Availability of hospital policy for not re-capping needle after use | | |
| Yes | 90 | 56.25 |
| No | 28 | 17.5 |
| I don't know | 42 | 26.25 |
| Total | 160 | 100 |
| Means of disposing used syringe and needle | | |
| Safety box | 128 | 80 |
| Dust bin | 32 | 20 |
| Recap and drop on patient bedside locker | 0 | 0 |
| Give to patient/relation to discard | 0 | 0 |
| Total | 160 | 100 |
| Availability of operational guideline for the practice of standard precautions in wards/units | | |
| Yes | 78 | 48.75 |
| No | 82 | 51.25 |
| Total | 160 | 100 |
| Vaccination against Hepatitis B Virus (HBV) | | |
| Yes | 68 | 42.5 |
| No | 92 | 57.5 |
| Total | 160 | 100 |

of service and practice of standard precaution.

The calculated chi-square (X^2) 0.321 at 1 degree of freedom (df) is less than the tabulated value of 3.842 at 0.05 level of significance (P); hence the null hypothesis is accepted. Therefore, awareness has no relationship with practice of standard precaution.

The calculated chi-square (X^2) 1.416 at 1 degree of freedom (df) is less than the tabulated value of 3.842 at 0.05 level of significance; hence the null hypothesis is accepted. Therefore, awareness of standard precaution has no relationship with vaccination against Hepatitis B virus.

The calculated chi-square (X^2) 3.369 at 2 degree of freedom (df) is less than the tabulated value of 5.995 at

0.05 level of significance; hence the null hypothesis is accepted. Therefore, supply of protective equipment and practice of standard precaution (Tables 5,6,7 and 8).

DISCUSSION

The study revealed that majority of the respondents 96 (60%) were female, only 64 (40%) were males. This support the observation that nursing profession is predominantly made up of females. Majority of the respondents 50 (31.25%) were Nursing Officers I and II, only 20 (12.10%) were Chief Nursing Officers. This is a true reflection of the fact that lower and middle rank personnel form majority of the work force of most

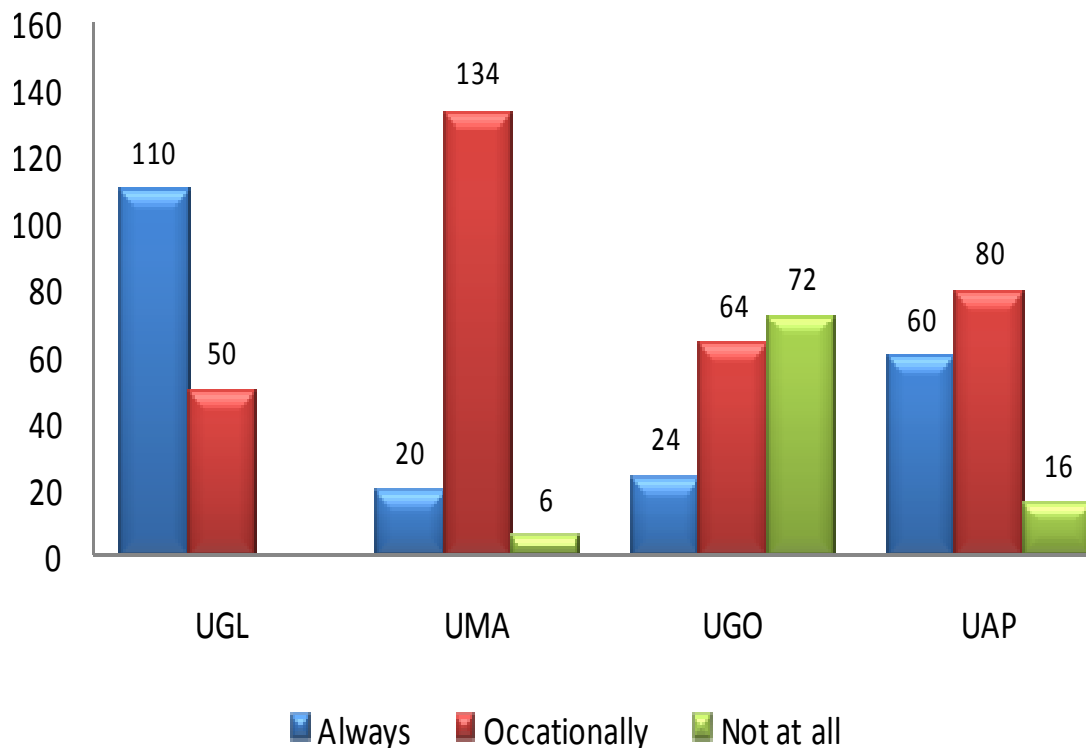


Figure 2. A multi-dimension bar chart representing the use of protective materials.

UGL = Use of gloves, **UMA** = Use of mask, **UGO** = Use of goggles, **UAP** = Use of apron

Table 4. Barriers to practice of standard precautions.

| Variables | Frequency | Percentages (%) |
|---|-----------|-----------------|
| Limited knowledge | 30 | 18.75 |
| Irregular supply of infection control materials | 20 | 12.50 |
| Work load | 18 | 11.25 |
| Limited nursing personnel | 20 | 12.50 |
| Time constraint | 2 | 1.25 |
| Protective materials reduces my skill | 4 | 2.5 |
| Poor supervision | 4 | 2.5 |
| Negative attitude of health workers | 34 | 21.25 |
| Poor compliance by senior colleagues | 12 | 7.5 |
| Emergency situation | 16 | 10.00 |
| Total | 160 | 100 |

professions. The findings also revealed that respondents had different category of years of service and were located across different ward/units of the hospitals.

To what extent are nurses knowledgeable about standard precaution in FMCG?

Findings revealed that greater number of Nurses 142 (88.8%) who participated in the study were aware of standard precautions. This agrees with the findings of Patience et al., (2008) whose descriptive study on

awareness and attitude of health care workers towards implementation of standard precautions in Ogbomoso, Oyo state revealed that 90% of the respondents were aware of standard precautions. However, contrary to this finding was the report of Bamigboye and Adesanya (2006) in Obafemi Awolowo University Teaching Hospital, Ile-Ife, Osun State which reveals that awareness is low.

On condition for which standard precaution is applied, 67% of the respondents rightly affirm that standard precaution should be applied to all patients irrespective of the health status. This finding is congruent with the submission of Centre for Diseases Control and prevention (2006) that

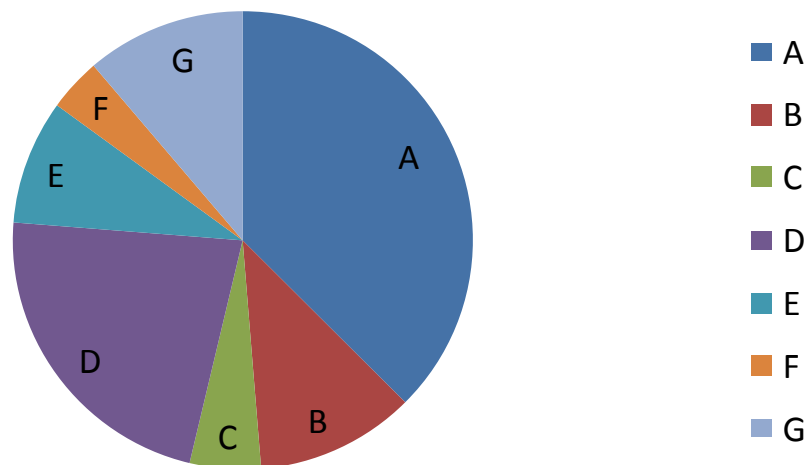


Figure 3. A Pie chart illustrating respondents' perceived ways of improving the practice of standard precaution in Federal Medical Centre Gombe.

A = Regular update/seminar 60 (37.5%), B = Employment of more nurses 18 (11.25%), C = Strict supervision 10 (4%), D = Health workers to improve on attitude 36 (22.5%), E = senior colleagues to improve on practice 14 (8.75%)
F = Hospital policy 6 (3.75%), G = Regular supply of infection control materials 18 (11.25%).

standard precaution is applied to all patients receiving care irrespective of their diagnosis or presumed infection state. The findings of this study however are partly at variance with that of Said et al. (2014) in Kabul Hospital – Afghanistan. Said et al. reported that 50% of the respondents thought standard precaution is meant for HIV/AIDS and hepatitis only.

Regarding knowledge of components of standard precautions, only 46 (28.75%) of the respondents have good knowledge of the components and as such were able to score three points and above. This report on the knowledge of components of standard precautions is in consonance with that of Bamigboye et al., (2006) whose descriptive study among final year medical and nursing students of Obafemi Awolowo University Teaching Hospital Complex Ile-Ife which reveal that, only 38.8% of the respondents had good knowledge of the phenomenon. Furthermore, the finding is also in agreement with that of Dinah (2005) whose literature search in cumulative index of Nursing and allied health literature data base from 1990-2003. The literature search revealed that globally, knowledge of standard precaution is inadequate and compliance is low.

Going by the discussion of findings on assessment of knowledge it implies that knowledge of standard precautions among Nurses at Federal Medical Centre Gombe is low despite the fact that majority of the respondents 142 (88.75%) claimed awareness of standard precautions. This disparity between the number of persons who are aware of the standard precautions and those having in-depth knowledge is common among health workers, and makes it imperative that the focus should not just be on creating awareness of the phenomenon, but ensuring that the depth of knowledge is

such that the health worker can effectively disseminate the information to others. A study carried out to assess knowledge, attitude and practice of universal precaution among Doctors and Nurses in Accra teaching Hospital Ghana found a similar picture, with about 92% aware of universal precaution, but only 71% had good knowledge of the phenomenon (Hesse et al., 2006). The apparent low levels of knowledge in this study may be due to the lesser attention given to universal precaution both by the governments of the country and by the hospital management. Standard precaution in Nigeria and indeed Gombe state is yet to gain the political attention it deserves by all tiers of government (Tables 5,6,7 and 8).

How do Nurses comply with the practice of standard precaution in patient's management?

On compliance with standard precautions the research revealed that more than half of the respondents 98 (68.25%) observe the hand washing component of the standard precaution in the management of patients always and they do so by washing hand before and after procedure, whereas 52 (32.50%) only wash their hands after a procedure. This finding confirms the fact that hand washing is inconsistent and the gaps in hand washing identified by this study highlights the need for a critical look into the content and delivery of health information, as such gaps may in fact inadvertently place the health workers and patients at more risk by giving a false sense security that puts the patients at risk of infection.

Other findings of the study show that majority of the respondent 122 (76.25%) do not recap needle after use and most respondents 128 (80%) dispose used syringes

Table 5. Effect of years of experience on practice of standard precaution.

| Years of working experience | Level of compliance | | | Statistics | Remarks |
|-----------------------------|---------------------|------------|-------|---|-------------|
| | Always | Sometimes | Total | | |
| < 1year | 4 (4.38) | 6 (5.63) | 10 | $X^2_{cal} = 27.949$ Df=4 $X^2_{tab} = 9.488$ | Significant |
| 1-5 | 12 (13.13) | 18 (16.88) | 30 | | |
| 6-10 | 14 (25.38) | 44 (32.63) | 58 | | |
| 11-15 | 22 (18.38) | 20 (23.63) | 42 | | |
| 16 above | 18 (8.75) | 2 (11.25) | 20 | | |
| Total | 70 | 90 | 160 | | |

$$X^2 = 27.949 > 9.488; df = 4, P=0.05.$$

Table 6. Awareness and practice of standard precaution.

| Awareness | Practice of standard precaution | | | Statistics | Remarks |
|--------------|---------------------------------|-----------|------------|---|-----------------|
| | Always | Sometimes | Total | | |
| Yes | 61(62.13) | 81(79.88) | 142 | $X^2_{cal} = 0.321$ Df= 1 $X^2_{tab} = 3.842$ | Not Significant |
| No | 9 (7.88) | 9 (10.13) | 18 | | |
| Total | 70 | 90 | 160 | | |

Table 7. Awareness of standard precaution and compliance to vaccination against Hepatitis B virus.

| Vaccination against Hepatitis B Virus | Level of awareness | | | Statistics | Remarks |
|---------------------------------------|--------------------|-----------|-------|---|-----------------|
| | Yes | No | Total | | |
| Yes | 58 (60.35) | 10 (7.65) | 68 | $X^2_{cal} = 1.416$ Df= 1 $X^2_{tab} = 3.842$ | Not Significant |
| No | 84 (81.65) | 8 (10.35) | 92 | | |
| Total | 142 | 18 | 160 | | |

$$X^2 = 1.416 < 3.842, df = 1, P = 0.05$$

Table 8. Supply of projective materials and practice of standard of precaution.

| Supply of material | Practice of standard precaution | | | Statistics | Remarks |
|--------------------|---------------------------------|------------|-------|---|-----------------|
| | Always | Sometimes | Total | | |
| Very satisfied | 24(22.75) | 28 (29.25) | 52 | $X^2_{cal} = 3.369$ Df= 2 $X^2_{tab} = 5.995$ | Not Significant |
| Satisfied | 38(42) | 58(54) | 96 | | |
| Not satisfied | 8 (5.25) | 4 (6.75) | 12 | | |
| Total | 70 | 90 | 160 | | |

$$X^2 = 3.369 < 5.995, df = 2, P = 0.05$$

and needles in the safety box. Majority of the respondents 82 (51.25%) denied the availability of operational guidelines for the practice of standard precautions in their ward/unit. These findings agree with that of Sadoh et al., (2006) in Abeokuta, Nigeria. Sadoh et al. reported that compliance with non-recapping was high among trained Nurses 121(58.2) and worse with Doctors 13 (28.3%) with sharp containers always available for disposal of sharps. On the contrary, the findings of Patience et al., (2008) whose study on

awareness and attitude of health care workers towards implementation of standard precautions revealed that bio hazard boxes for disposal of sharps were not sufficiently provided.

On vaccination against hepatitis B, the study revealed that awareness of standard precaution has no relationship with vaccination against Hepatitis B virus. In other word, more than half of the respondents 92 (57.5%) have not taken immunization against Hepatitis B virus despite the fact that majority of the respondents indicated

high level of awareness on standard precautions. This finding is keenly supported by Kesiema et al. (2011) who also reported low (26.8%) level of compliance to Hepatitis B vaccination among operating room personnel in Maiduguri, north-eastern Nigeria.

What are the factors that affect the practice of standard precaution among Nurses in FMCG?

On the factors influencing the practice of standard precaution, the study revealed that negative attitude of health workers 34 (21.25%) affects compliance to practice. Mere awareness which translate to limited knowledge was found to be a significant contributor to poor practice while 20 (12.50%) were of the opinion that limited nursing personnel. Irregular supply of infection prevention materials though not significant has been reported in Ahmadu Bello University Teaching Hospital, Zaria as one of the factors that influence the practice of standard precautions (Abraham, 2006). Other factors include increase work load, emergency situations, and poor compliance by senior colleagues. These findings tally with that of Efstathiou et al. (2011) whose report on factors influencing nurses compliance with standard precaution in Cyprus, revealed that emergency situation, lack of equipment, shortage of nursing personnel and working experience are major obstacle to practice of standard precaution. Dimani (2006) asserted that failure to comply with policies and procedures that support the reduction of Hospital acquired infection (HAI'S) is recognized as complex problem that contribute to putting the life of the healthcare worker, the patient and relation at risk of acquiring infection (Tables 5,6,7 and 8). Years of service/work experience was also found to have influence on practice of standard precaution.

What are the perceptions of Nurses on how practice of standard precautions can be improved?

As part of measures to improve the practice of standard precautions in FMCG, the study revealed that more than one-third of the respondents 60(37.5%) believed that regular update/seminar will help create awareness for compliance and also help improve positive attitude toward standard precaution. 18 (11.25%) of the respondent maintained that regular supply of infection control materials can improve compliance. Other measures suggested by the respondents include employment of more Nurses, senior colleagues to improve on attitude, strict supervision and availability of hospital policy to promote standard precaution. These findings agrees with WHO (2004) position that professional exposure to viruses and other healthcare associated infections are compounded by restricted size of staff in many health units, the lack of basic protective

equipment, cleaning materials and deficient knowledge all contribute to poor compliance.

Implication for nursing

One of the central roles of nurses is to provide holistic care to patients irrespective of their diagnosis or presumed infection status. The nurse need to protect himself/herself, the patient and relations from any form of hospital acquired infections hence the need to practice standard precaution. Florence Nightingale, one of the famous Nurse manager was reported saying "the first requirement of the hospital is that it should do the sick no harm". Hence the nurse must protect the patient from nosocomial infections. The nurses who adopt standard precaution judiciously protect the client and him/herself from potential harm. The patient net stay in hospital is shortened; the care givers remain healthy and efficient.

Also when the Nurse applies a uniform type of caution to all patients, it makes the patients to develop confidence on the nurse and reduce feeling of stigmatization. The nurse should function as an educator to the patients/relations and other health care workers on the risk of hospital associated infections and non compliance to standard precautions.

CONCLUSION AND RECOMMENATIONS

In conclusion, standard precaution is a life saving measure which is even more relevant as the number of people living with HIV/AIDS, Hepatitis and other infectious diseases are measuring. It was observed that knowledge about standard precaution is low among nurses and quite a significant number showed poor compliance. The study also detected sub optimal practice and behavior that place patients, relations and nurses at significant risk of acquiring infection. Factors affecting the practice of standard precautions have been identified hence the need for health authorities in the study area to improve on the training of health care workers and provision of infectious prevention materials.

In addition, strict supervision, policy/operational guidelines and change in attitude need to be implemented. On the supply of protective devices, one-third of the respondents were satisfied with the provision made by the hospital management. It was also noted that even where this materials are available, they are under utilize. Negative attitude of health workers, limited knowledge, limited nursing personnel, irregular supply of infection prevention materials, and attitude of senior colleagues were identified as some of the factors affecting the practice of standard precaution.

Based on the findings of the study, the following recommendations are made:

1. Nurses should endeavor to practice standard precautions always irrespective of the patient diagnosis or presumed health status.
2. Mandatory seminars/workshops on standard precautions should be continuously organized by health employers and professional association for Nurses and other health care workers to increase awareness and practice.
3. Employers of health care providers should develop specific policies/operational guidelines on the practice of standard precaution.
4. Managers of health care facilities should ensure regular supply of infection prevention materials at all time within the facility.
5. Disciplinary measures for poor compliance to enhance practice.
6. There should be strict supervision by nurse managers at all levels to ensure best practice.
7. Routine screening and immunization of staff against Hepatitis B

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