Knowledge, attitude and practice of nurses in the prevention of nosocomial infection among in-patients in UNIOSUN teaching hospital, Osogbo

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Abstract

Introduction: Nosocomial infection is one of the leading causes of morbidity and mortality among inpatients in the hospital and constitutes a serious public health risk that impacts millions of people worldwide. Adopting infection prevention techniques has the greatest potential to significantly lower the population's risk and incidence of Nosocomial Infection, especially in healthcare systems with limited resources. Therefore, this study aimed to assess the knowledge, attitude, and practice of nurses toward the prevention of Nosocomial Infection.
Methodology: This was a descriptive cross-sectional research design. Reliability was done through pilot testing, face and content validity of the instrument were done. The study was carried out among one hundred and ninety-five (195) Nurses working in UNIOSUN Teaching Hospital, Osun State, Nigeria between July and October 2023. An adapted questionnaire was used for data collection and data collected were analyzed using descriptive statistics of frequencies and percentages while inferential statistics of chi-square was used to test the hypothesis at 0.05 level of significance.
Results: The result showed that 86% of the respondents had good knowledge, 53.1% had negative attitudes and 84% had poor practices of prevention of nosocomial infection. The study also revealed no significant relationship between demographic characteristics of age, gender, marital status, religion, ethnicity, years of experience, ward/unit, professional rank, and knowledge of nosocomial infection. Also, no statistically significant relationship between knowledge and practice of prevention of nosocomial infection (x^2=0.231, df = 1, and p=value > 0.05).
Conclusion: This study therefore concluded that there existed adequate level of knowledge but negative attitude and poor practice in the prevention of nosocomial infection among nurses. Also, there is a need for proper in-service training for nurses and midwives, as well as provision of adequate resources for effective practices of nosocomial infection prevention within the hospital.

Connaissances, attitude et pratique des infirmières dans la prévention de l'infection nosocomiale chez les patients internes à l'hôpital d'universitaire UNIOSUN, Osogbo

Résumé
Introduction : L'infection nosocomiale est l'une des principales causes de morbidité et de mortalité chez les patients hospitalisés et constitue un risque grave de santé publique qui touche des millions de personnes dans le monde. L'adoption de techniques de prévention des infections offre le plus grand potentiel pour réduire considérablement le risque et l'incidence des infections nosocomiales dans la population, en particulier dans les systèmes de santé aux ressources limitées. Par conséquent, cette étude visait à évaluer les connaissances, l'attitude et la pratique des infirmières envers la prévention des infections nosocomiales.
Méthode de l'étude : Il s'agissait d'un plan de recherche descriptif et transversal. La fiabilité a été vérifiée grâce à des tests pilotes, la validité apparente et le contenu de l'instrument ont été effectués. L'étude a été réalisée auprès de cent quatre-vingt-quinze (195) infirmières travaillant à l'hôpital universitaire UNIOSUN, dans l'État d'Osun, au Nigéria, entre juillet et octobre 2023. Un questionnaire adapté a été utilisé pour la collecte de données et les données collectées ont été analysées à l'aide de statistiques descriptives de fréquences. Et les pourcentages tandis que les statistiques inférentielles du chi carré ont été utilisées pour tester l'hypothèse au niveau de signification de 0,05.
Résultat de l'étude : Le résultat a montré que 86% des répondants avaient de bonnes connaissances, 53,1% avaient des attitudes négatives et 84% avaient de mauvaises pratiques de prévention des infections nosocomiales. L'étude n'a également révélé aucune relation significative entre les caractéristiques démographiques telles que l'âge, le sexe, l'état civil, la religion, l'origine ethnique, les années d'expérience, le service/unité, le rang professionnel et la connaissance de l'infection nosocomiale. Également, aucune relation statistiquement significative entre les connaissances et la pratique de la prévention des infections nosocomiales (x2 =0,231, df = 1 et p=valeur > 0,05).
Conclusion : Cette étude a donc conclu qu'il existait un niveau de connaissances adéquat mais une attitude négative et de mauvaises pratiques en matière de prévention des infections nosocomiales chez les infirmières. Il est également nécessaire de dispenser une formation continue appropriée aux infirmières et aux sages-femmes, ainsi que de fournir des ressources adéquates pour des pratiques efficaces de prévention des infections nosocomiales au sein de l'hôpital.
Mots-clés : Infection nosocomiale, connaissances, attitudes et pratiques

INTRODUCTION

Nosocomial infection (NI) is one of the leading causes of morbidity and mortality among inpatients in the hospital settings and constitutes a serious public health risk that impacts millions of people worldwide (1). Over 1.4 million people worldwide suffer from ailments that are acquired in hospitals and over the past two decades, there has been a rise in nosocomial infections due to an increase in invasive operations and rising antibiotic resistance (2). Previous studies estimated that 7% of all patients admitted to medical facilities will contract at least one nosocomial infection within 48 hours to 30 days of admission (3, 4). The prevalence of HAIs varies between 7% in high-income and 15% in low- and middle-income countries respectively (5). Evidence suggested that nosocomial infection globally is estimated to be 0.14% (1) with an annual increasing rate of 0.06% (1) and accounted for 22% in Africa (6), 1.6-28.7% in sub-Sahara Africa (7) and 20.2% in Nigeria (8).

Nosocomial infection can be prevented by minimizing the spread of causative agents, isolation of patients suffering from infectious diseases, and maintaining well-sanitary conditions in hospitals and medical care units (9). The Centers for Disease Control and Prevention (CDC) developed standard precautions describing a detailed procedure that needs to be followed to prevent the transmission of disease-causing agents, thereby preventing HAIs (5). The principle of this guideline is that all patients carry infectious agents even when they are asymptomatic, therefore standard precautions should be used. (10). These include hand hygiene, use of gown, cleaning and disinfection of equipment, facial protection, disposal of sharp objects, management of waste products, and coughing etiquette. Despite this recommendation, Abalkhail et al. (10) reported through their study conducted in Saudi Arabia that adherence to hygiene recommendations among Health Care Workers (HCWs) was below standard. Meanwhile, Maitanmi, et al., (11) stated in their findings in Ogun State, Nigeria that (7.4%) had moderate preventive practices and no low preventive practices. Therefore, this study aimed to assess the knowledge, attitude, and preventive practices of nosocomial infection among nurses in Uniosun Teaching Hospital, Osogbo, Osun State. The guiding objectives of the study are to: (a) assess the knowledge of nurses about the prevention of nosocomial infection, (b) assess the attitude of nurses towards the prevention of nosocomial infection, (c) assess the practice of prevention of nosocomial infection among nurses.

MATERIALS AND METHODS

Study Design, Setting, and Population

This is a descriptive cross-sectional research design conducted to assess the knowledge, attitude, and practice of nurses in the prevention of NI among in-patients of Uniosun Teaching Hospital, Osogbo between July 2023 to October 2023. The research was conducted in UNIOSUN Teaching Hospital, Osogbo, Osun state. UNIOSUN Teaching Hospital (UTH) is a tertiary health institution located around the Idi-Seke axis of Olorunda Local Government Area, Igbona, Osogbo. The institution was formerly called LAUTECH Teaching Hospital, jointly owned by Oyo and Osun State. The hospital came into being by an edict that was gazette in 1990 and amended in 1997 by the then military administration, under Lt. Col. Anthony Obi. The hospital was recently taken over by the Osun State government and its transfer of ownership was officially pronounced on 5th December, 2020. The hospital is organized by the Osun state government to be a teaching and clinical arm for students of nursing, medicine, and medical laboratory departments. It contains 210 beds distributed or spread across the male surgical ward, female surgical ward, male medical ward, female medical ward, eye ward, male orthopedic ward, pediatric medical, and pediatric surgical wards with over 300 nurses. The respondents were nurses from the following wards: Male surgical, female surgical ward, male medical ward, and female medical ward, eye ward, male orthopedic ward, burns unit, gynecology ward, ear, nose and throat ward, accidents and emergency ward, pediatric medical and pediatric surgical wards. The study population included 318 nurses working in various units and wards of UNIOSUN Teaching Hospital, Oshogbo, Osun State.

Sample and Sampling Technique

Sample: The sampling size was calculated based on the Taro Yamane formula which states;

$n = N / 1 + N e^2$

Where n = Sample size

N = Population size

e = Tolerable error (0.05)

Population size (N) is 318 nurses

$n = 318/1 + (318)0.05^2$

$n = 318/1 + 1.795$

$n = 318/1.795$

$n = 177.1$

n= 177
The respondents for this study were 177
Attrition rate = 10% of the sample size
10% 0f 177 = (10/177) 100
10% of 177 = 17.7
n= 177+17.7 = 194.7
Sample size approximately = 195

Sampling Technique: This research was done using one hundred and ninety-five nurses. A convenience sampling technique, which is a type of non-probability sampling technique that ensures that every member of the population is taken from a group of people easy to contact or to reach was adopted for this study.

Data Collection Tool

Data were collected using an adapted questionnaire consisting of four sections. Section A elicited information on socio-demographic characteristics with 8 items; section B consisted of 9 items on the knowledge of nurses on nosocomial infection with 'yes' and 'no' options. The yes response indicated a positive response and was allotted 1 while the no response indicated a negative response and it was allotted 0. The maximum knowledge score was 9 while the minimum knowledge score was 0, the scores below average (0-4) indicated poor knowledge while the scores of average and above (5-9) indicated good knowledge; section C consists of 8 items which elicited information on the attitude of nurses towards prevention of nosocomial infections on a four-point Likert scale ranging from strongly agree to strongly disagree in descending order (3-0). The total obtainable score was 24 while the lowest score was 0, the scores below average (0-11) indicated a negative response while the scores of average and above (12 to 24) indicated a positive response. Section D consists of 20 items that elicited information on the practice of NI on a four-point Likert scale ranging from strongly agree to strongly disagree in descending order (3-0). The total possible score was 60 while the minimum possible score was 0. The scores below average (0 and 29) indicated poor practice while the score between 30 and 60 indicated good practice. One hundred and ninety-five (195) questionnaires were distributed to the respondents and the same were retrieved, filled, and suitable for analysis. Reliability was done through pilot testing, face and content validity of the instrument was ensured by the researchers, experts in the field of health, and other experts in tests and measurement.

Data Analysis

Data collected were analyzed using the EPI Info statistical package for social sciences version 26 and the result was presented using descriptive statistics of frequencies and percentages while inferential statistics of chi-square were used for stated hypotheses at 0.05 level of significance.

Ethical Consideration: Permission was obtained from the ethical committee of the UNIOSUN Teaching Hospital, Osogbo where the study was carried out with reference number UTH/EC/2023/10/842. Informed consent was obtained from each respondent and they were given the liberty to make informed decisions and the freedom to withdraw from the study without any penalty**.**

RESULTS

Table 1 shows the socio-demographic characteristics of respondents. The mean age of respondents was 35.6 (3.52). A greater percentage of the respondents (34.4%) were between 30-39 years. females (72.5%), married (63.8%), Christians (60.5%), and Yoruba (84.1%). More than half (58.5%) of the respondents had 1-10 years of experience, currently Nursing Officer II (25.6%).

Table 2 shows the knowledge of the respondents on the prevention of nosocomial infections. All the respondents identified nosocomial infections as hospital-acquired infections (100%). The vast majority indicated that the environment is the major source of bacteria (94.9%) and that nosocomial infection can be transmitted from patient to patient (89.2%). It was also indicated that advanced (old age) or very young age increases the risk of nosocomial infection (90.3%). More so nosocomial infection occurs when the standard precautions are not followed as reported by most of the respondents, (91.8%), and can manifest during the period of hospitalization (92.8%). Almost 5 out of every 7 respondents agreed that Nosocomial infection accounts for higher rates of morbidity; and mortality among admitted patients and is a major work hazard for nurses (86.2%). Greater than three-quarters of them submitted that it is usually caused by pathogenic organisms (87.2%).

Figure 1 revealed in overall that 86% of respondents had good knowledge while 14% had poor knowledge on the prevention of Nosocomial Infections

Table 3 shows that (65.6%) of the

respondents agreed that prevention of nosocomial infection is a shared responsibility among healthcare workers, wearing of appropriate personal protective equipment is important as submitted by (47.2%), proper waste management contributes to the prevention of nosocomial infections as reported by (63.1%). About half (53.8%) strongly agreed that nurses should educate patients and families about infection prevention practices, timely identification and isolation of infected patients is crucial in preventing the spread of nosocomial infection (57.4%) and that Nurses should engage in continuing education or training programs related to infection prevention (63.1%). In addition, slightly above half of the respondents agreed that adhering to hand hygiene protocols will help prevent nosocomial infection (52.3%) and nurses need to be trained on the proper use of disinfectants and cleaning agents (50.8%).

Figure 2 Revealed overall that 53.1% of the respondents had a negative attitude while 46.9% had the positive attitude toward Nosocomial Infections

Table 4: Evident from Table 4 are - the practices of Nurses toward the prevention of NI. The findings revealed that half (50.8%) of the respondents strongly agreed that preventive measures should be taken by both nurses and patients, instruments should be sterilized before and after use (48.2%) and sharp objects should be disposed into the safety box (48.2%). However, less than half (49.2%) agreed that hand hygiene is done before and after contact and care of patients (45.1%). As agreed by the respondents hand hygiene should be done between contact with patients (44.6%), and after removal of gloves (51.8%), sterile gloves should be worn before physical examination (37.9%), vaccine administration (44.1%), and when there is risk of contact with body fluids (31.8%). Most respondents also agreed that cutaneous lesions should be covered before any procedure (56.4%) and Nurses must wear Personal Protective Equipment at all times (39.0%). In addition, the respondents disagreed that nurses are solely responsible for controlling infection (45.6%), and the preventive measures should be taken by patients alone (49.7%). The majority further disagreed that preventive measures should only be applied to nurses who have contact with body fluids (39.5%), hand hygiene should be done only before the physical examination (37.4%) and Needles should be recapped after use (34.9%). In furtherance to this, a larger proportion of the respondents strongly disagreed that the same instrument can be used for different patients (38.5%) and the same needle can be used for medication administration of patients (40.0%).

Figure 3 shows the overall practices of nurses in the prevention of nosocomial infection. The overall good practices were (84%) while poor practices were (16%).

Table 5 revealed no significant relationship between demographic characteristics of age (x^2 = 6.590; df=3; p-value=0.086.), gender (x^2 = 0.039; df=1; p-value=0.843), marital status (x^2 = 5.887; df=2; p-value=0.053), religion (x^2 = 0.175; df=1; p-value=0.676), ethnicity (x^2 = 0.682; df=2; p-value=0.711), years of experience (x^2 = 5.063; df=2; p-value=0.08), ward/unit (x^2 = 7.768; df=6; p-value=0.256), professional rank (x^2 = 12.397; df=6; p-value=0.054) and the level of knowledge of nosocomial infection.

Table 6 revealed there is no statistically significant association between knowledge and practice of preventing nosocomial infection among the respondents (x^2=1.438; df=1; p-value=0.231).

DISCUSSION

The findings from the study carried out at UNIOSUN Teaching Hospital, Osogbo showed that the mean age of the respondents was 35.6 (3.52) years and the majority were between the ages of 30-39 years. This is consistent with findings carried out by Maitanmi et al., (11) in Ogun State, who reported that 39.1% of the respondents are between 30 and 39 years. The study revealed that the respondents were mostly female. These findings corroborate the write-up by WHO (12) who estimated that 67% of the health and social workforce are women.

Findings from this study showed that all the respondents indicated nosocomial infections as hospital-acquired infections and can be acquired through a reservoir of different organisms like bacteria, and viruses. This finding is in line with the statement of that bacteria can spread in the air, contaminated aerosols and electrical appliances, equipment, windows, bed surfaces, walls, and doors. Meanwhile, all these are the components of the hospital environment (9, 13-14).

The findings also showed that nurses know that old age or very young age increases the risk of nosocomial infection as indicated by the respondents. This is in tandem with the previous studies that old age is a predisposition to acquisition of nosocomial infections (15-16). Findings from this study further revealed that the

majority of the respondents had good knowledge of nosocomial infection prevention. This is in tandem with the study by Mbon et al., (17) who discovered that 94% of his respondents had good knowledge. Previous studies also demonstrated that HCWs had good knowledge of NI (18-21). However, this finding contradicts the findings of Salu et al., (22) and Harman et al., (23) who discovered a greater number of their respondents are not knowledgeable about the preventive measures of NI.

Additionally, this study showed that 53.1% of the respondents had a negative attitude toward the prevention of NI while 46.9% had a positive attitude toward the prevention of Nosocomial infection. It is supported by Asfaw (20) and contradicts the findings by Mbon et al., (17), Khatrawi (21), and Gruda and Sopjani (24) whose respondents had a positive attitude towards the prevention of NI

The result from this finding revealed poor practice of NI prevention among nurses. This is consistence with the result of Bayleyegn (20) who stated that 90% had good knowledge 57.2% had a positive attitude and 36% had good practices. On the other hand, previous studies reported 92.1% good practices among their participants and some of the practices are proper hand hygiene, use of antiseptic, changing of masks, proper use of safety boxes, sterilization and autoclaving of the instrument, maintaining a sterile environment of the patient during any procedure and recapping of needles should be avoided as much as possible (18, 23-24).

The table revealed no statistically significant relationship between demographic characteristics of age, gender, marital status, religion, ethnicity, years of experience, ward/unit, professional rank, and the level of knowledge of nosocomial infection. However, Wu, et al., (25) reported that socio- demographic factors like gender, age group, type of employment, and clinical experience are significant predictors of knowledge of NI. The result from the study further revealed there is no statistically significant relationship between knowledge and practice of preventing nosocomial infection among the respondents (x^2=1.438; df=1; p-value=0.231). In support of the findings from this study, Mohandass et al., (3), reported no significant relationship between knowledge and Practice.

Limitation and Strength: The study is limited by the number of nurses available during the study because few of them are on leave which makes the work drag. Meanwhile, its strength lies in the fact that the questionnaires were answered by the respondents faithfully.

CONCLUSION

This study concluded that 86% of the nurses had good knowledge, negative attitudes, and poor practice of nosocomial infection prevention. There is no significant relationship between the demographic characteristics and the level of knowledge and also, there is no statistically significant relationship between knowledge and practice of preventing nosocomial infection prevention among the respondents. Therefore, there is a need for adequate in-service training for nurses, which will improve their knowledge as well as their attitudes in the prevention of nosocomial infection.

Conflict of interest: No conflict of interest

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Table 1: Socio-demographic characteristics of respondents

VARIABLE	FREQUENCY	100%
AGE		
Mean Age 35.6 (3.52) years		
20-29	46	23.6
30-39	67	34.4
40-49	55	28.2
50 and above	27	13.8
GENDER		
Male	52	26.5
Female	143	72.5
MARITAL STATUS		
Single	67	34.4
Married	124	63.6
Divorced	4	2.0
ETHNICITY		
Yoruba	164	84.1
Igbo	27	13.8
Hausa	4	2.0
RELIGION		
Christianity	118	60.5
Islam	77	39.5
YEARS OF EXPERIENCE		
1-10years	114	58.5
11-20years	35	17.9
21-30years	46	23.6
WARD/UNIT		
Medical-surgical	48	24.6
Pediatric	21	10.8
Gynecology	32	16.4
Intensive care unit	21	10.8
Emergency unit	31	15.9
Orthopedic	20	10.3
Mental	22	11.3
PROFESSIONAL RANK		
Nursing Officer I	40	20.5
Nursing Officer II	50	25.6
Senior Nursing Officer	34	17.4
Principal Nursing Officer	20	10.3
Chief Nursing Officer	17	8.7
Assistant Director of Nursing Services	11	5.6
Deputy Director of Nursing Services	23	11.8
Total	195	100.0

Table 2: Knowledge of Nurses about Nosocomial Infections

VARIABLES	YES	NO
Nosocomial Infection is also known as hospital-acquired infection.	196(100%)	0.0(%)
The environment (air, water, inert surfaces) is the major source of bacteria responsible for nosocomial infection.	185(94.9%)	10(5.1%)
Nosocomial infection can be transferred from patients to patients.	174(89.2%)	21(10.8%)
Advanced age (old age) or very young age increases the risk of nosocomial infection?	176(90.3%)	19(9.7%)
Nosocomial infection occurs when the standard precautions are not followed.	179(91.8%)	16(8.2%)
Nosocomial infection manifests during the period of hospitalization.	181(92.8%)	14(7.2%)
Nosocomial infection accounts for higher rates of morbidity and mortality among admitted patients.	149(76.4%)	46(23.6%)
Nosocomial infection is a major work hazard for nurses.	168(86.2%)	27(13.8%)
Nosocomial infection is caused by pathogenic organisms.	170(87.2%)	25(12.8%)

Figure 1: Summary of Knowledge of Nosocomial Infection

Table 3: Attitude of Nurses towards Prevention of Nosocomial Infection

VARIABLE	SA	A	D	SD
Prevention of nosocomial infection is a shared responsibility among healthcare workers	128 (65.6%)	64(32.8%)	1(0.5%)	2(1.0%)
Adhering to hand hygiene protocols will help prevent nosocomial infection	90(45.6%)	102(52.3%)	0(0.0%)	4(2.1%)
Wearing appropriate personal protective equipment is important	92(47.2%)	89(45.6%)	4(2.1%)	10(5.1%)
Proper waste management contributes to the prevention of nosocomial infections	123(63.1%)	64(32.8%)	0(0.0%)	8(4.1%)
Nurses need to be trained in the proper use of disinfectants and cleaning agents	92(47.2%)	99(50.8%)	0(0.0%)	4(2.1%)
Nurses should educate patients and families about infection prevention practices	105(53.8%)	84(43.1%)	4(2.1%)	2(1.0%)
Timely identification and isolation of infected patients is crucial in preventing the spread of nosocomial infection	112(57.4%)	73(37.4%)	4(2.1%)	6(3.1%)
Nurses should engage in continuing education or training programs related to infection prevention	123(63.1%)	65(33.3%)	5(2.6%)	2(1.0%)

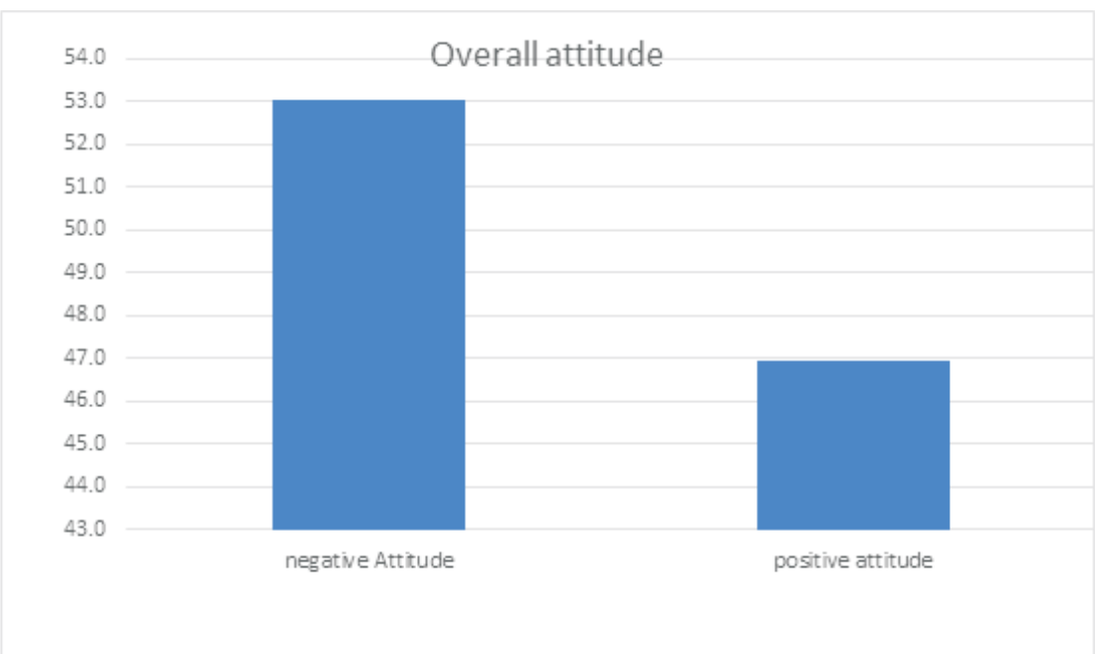

Figure 2: Summary of Nurses' Attitude about Nosocomial Infection

Table 4: Practices of Nurses towards Prevention of Nosocomial Infection

ariable	SA	A	D	SD
Nurses are solely responsible for controlling infection	44(22.6%)	34(17.4%)	88(45.6%)	28(14.3%)
The preventive measures should be taken by patients alone	11(5.6%)	21(10.8%)	97(49.7%)	66(33.8%)
Preventive measures should be taken by both nurses and patients	99(50.8%)	89(45.6%)	5(2.6%)	2(1.0%)
Preventive measures should only be applied to nurses who have contact with body fluids	26(13.3%	53(27.2%)	77(39.5%)	39(20.0%)
Hand hygiene is done before contact and care of patients	87(44.6%)	96(49.2%)	7(3.6%)	5(2.6%)
Hand hygiene is done after contact and care of patients	84(43.1%)	88(45.1%)	14(7.2%)	12(6.2%)
Hand hygiene should be done only before physical examination	28(14.4%)	51(26.2%)	72(37.4)	43(22.1%)
Hand hygiene should be done between contact with patients	76(39.0%)	87(44.6%)	10(5.1%)	22(11.3%)
Hand hygiene should be done after removal of gloves	79(40.5%)	101(51.8)	11(5.6%)	4(2.0%)
Sterile Gloves should be worn before physical examination	62(31.8%)	74(37.9%)	31(15.9)	28(14.4%)
Gloves should be worn for vaccine administration	70(35.9%)	86(44.1%)	13(6.7%)	26(13.3%)
Same instrument can be used for different patients	31(15.9%)	31(15.9%)	59(30.3)	75(38.5%)
Instrument should be sterilized before and after use	94(48.2%)	80(41.0%)	10(5.1%)	11(5.6%)
Needles should be recapped after use	34(17.4%)	31(15.4%)	68(34.9)	63(32.3%)
The same needle can be used for medication administration of patients	18(9.2%)	31(15.9%)	68(34.9)	78(40.0%)
Sharp objects should be disposed into the safety box	94(48.2%)	85(43.6%)	11(5.6%)	5(2.6%)
Gloves should only be worn when there is risk of contact with body fluids	46(23.6%)	62(31.8%)	44(22.6)	43(22.1%)
Cutaneous lesions should be covered before any procedure	63(32.3%)	110(56.4)	8(4.1%)	14(7.2%)
Nurses must wear Personal Protective Equipment at all times	74(37.9%)	76(39.0%)	34(17.4)	11(5.6%)

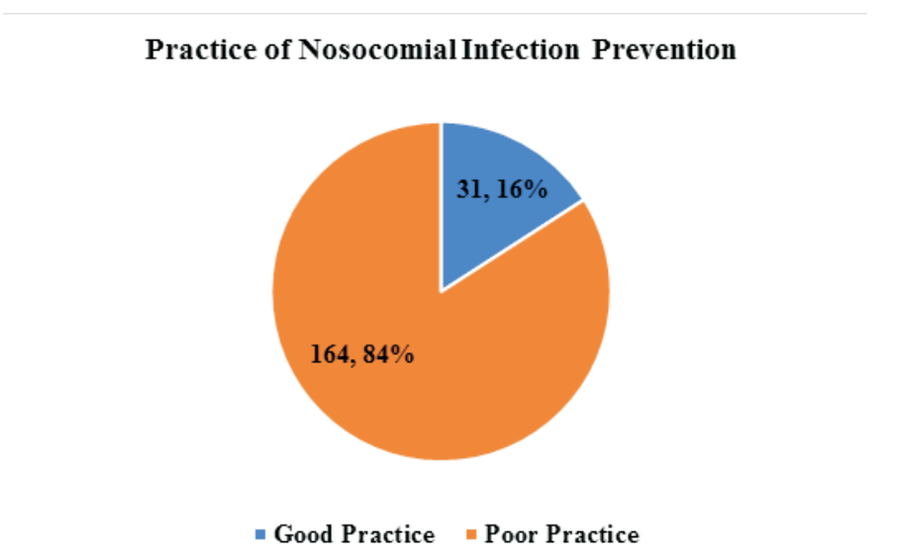

Figure 3: Summary of Nurses Practice on Nosocomial Infection

Table 5: Association between socio-demographic and knowledge

VARIABLE	Good knowledge	Poor knowledge	Df	x^2	p-value
AGE					
20-29	44(95.7%)	2(4.3%)	3	6.590	0.086
30-39	58(86.6%)	9(13.4%)			
40-49	43(78.2%)	12(21.8%)			
50 and above	23(21.9%)	5(6.1%)			
GENDER					
Male	45(86.5%)	7(13.5%)	1	0.039	0.843
Female	123(85.4%)	21(3.6%)			
MARITAL STATUS					
Single	63(94.0%)	4(6.0%)	2	5.887	0.053
Married	102(81.6%)	23(2.0%)			
Divorced	3(75.0%)	1(25.0%)			
ETHNICITY					
Yoruba	141(85.5%)	24(14.5%)	2	0.682	0.711
Igbo	23(85.2%)	4(14.8%)			
Hausa	4(100.0%)	0(0.0%)			
RELIGION					
Christianity	103(86.6%)	16(13.4%)	1	0.175	0.676
Islam	65(84.4%)	12(15.6%)			
YEARS OF EXPERIENCE					
1-10years	102(89.5%)	12(10.5%)	2	5.063	0.08
11-20years	26(74.3%)	9(25.7%)			
21-30years	40(85.1%)	7(14.9%)			
WARD/UNIT					
Medical-surgical	42(85.7%)	7(14.3%)	6	7.768	0.256
Pediatric	19(90.5%)	2(9.5%)			
Gynecology	29(90.6%)	3(9.4%)			
Intensive care unit	17(81.0%)	4(19.0%)			
Emergency unit	28(90.3%)	3(9.7%)			
Orthopedic	18(90.0%)	2(10.0%)			
Mental	15(68.2%)	7(31.8%)			
PROFESSIONAL RANK					
Nursing Officer I	37(92.5%)	3(7.5%)		12.397	0.054
Nursing Officer II	46(92.0%)	4(8.0%)			
Senior Nursing Officer	28(82.4%)	6(17.6%)			
Principal Nursing Officer	13(65.0%)	7(35.0%)			
Chief Nursing Officer	16(94.1%)	1(5.9%)			
Assistant Director of Nursing Services	9(81.8%)	2(18.2%)			
Deputy Director of Nursing Services	19(79.2%)	5(20.8%)			
Total	195	100.0			

Table 6: Association between Knowledge and Practice

Variable	Good practice	Poor Practice	Total	x^2	Df	p-value
Good Knowledge	25(12.9%)	142(87.1%)	167	1.438	1	0.231
Poor knowledge	6(21.4%)	22(78.6%)	28			