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The practice of hand washing for the prevention of nosocomial infections among nurses in general hospital Ikot Ekpene, Akwa Ibom State, Nigeria

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ABSTRACT

Hospital acquired infections have been recognized as a critical problem affecting patient care. Factors such as inadequate knowledge of hand washing techniques, long nails, wearing of rings and water related problems affect the practice of hand washing. The main purpose of the study was to assess the practice of hand washing among nurses for prevention of nosocomial infections in General Hospital Ikot Ekpene, Akwa Ibom State.The study was a descriptive study. A total population of all nurses directly rendering care to patients in medical surgical maternity and intensive care unit were used. Structured questionnaire was designed to collect data from the 102 respondents used for the study. Descriptive statistics like tables and percentage was used to analyse data. The result revealed that 84(82.4%) respondents had good knowledge of hand washing and 18 (17.6%) had poor knowledge. Observations on the practise of hand washing revealed that 43 (42.2%) respondents always practised hand washing for prevention of nosocomial infection, 35 (34.3%) practised occasionally, while 24 (23.5%) never practiced hand washing. It was concluded that nurses had good knowledge of hand washing but did not practice it. It was therefore recommended that hospital management should provide hand washing facilities. Also, educational programme such as workshop/seminars to improve hand washing practice in hospital should be encouraged.

Keywords: Hand washing, Practise, Nurses Nosocomial Infections

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INTRODUCTION

One of the most recurrent themes with regards to the prevention of nosocomial infections in hospital has been the issue of hand washing among medical personnel. Knowledge and practise of hand washing and Aseptic technique are very important in preventing the transfer of pathogen micro-organisms by nurses to their patients in the course of rendering care. It is considered as one or the most infection control measures. Nurses may harbor micro-organisms that are harmless to them but potentially harmful to patients if they find a route of entry. It is important that nurses wash their hands and maintain Aseptic technique when carrying out health procedures because they are directly involved in providing a biologically safe environment for the patients. Micro-organism exist every where, in water, soil, air, body surface like the skin, intestinal tract, vagina, respiratory tract and urinary tract. Some micro-organisms are normal residents flora, while others invade the body and cause infection and disease that could either be asymptomatic, subclinical or clinical. These features make them vary in their virulence, pathogenicity and sepsis.

Hospitals are places where sick people go with the expectations that they will get better. Unfortunately, there is a risk that hospitalised patients may become infected because of their stay in hospital. Infections that are acquired while a patient is in hospital are referred to as nosocomial infections; a term derived

'Nosos' 'the Greek word for disease[1].About one patient in ten acquires an infection as a direct result of being hospitalized[2].

[3].Carried out a cross-sectional survey to investigate nurses' knowledge of hand washing in Urban emergency department. A total of 480 nurses were randomly selected from a population acute care nurses and 306 were successfully recruited to the study. The study revealed that nurses' knowledge of hand washing was inadequate.The result also showed no significant relationship between nurses knowledge and compliance with practice.

According to[2] cross infections in hospitals occur mainly via hands. In a study conducted by[4]. on practice of hand washing in UCTH, using 100 nurses; the result yielded a significant relationship between knowledge of hand washing and practise of hand washing when the t calculated of 2.56 was greater than the critical t of 1.97.In another study by[5] on knowledge and practise of hand washing in General Hospital Calabar using 128 nurses, the result revealed that 28.7% of nurses had knowledge of hand washing and practiced it, 49.8% performed hand washing occasionally while 21.8% of nurses had poor knowledge of hand washing and rarely practised it after each procedure. Also, it was observed that there was no standard procedures for hand washing in the hospital under study.

The practice of hand washing varies from one hospital to another. Several studies by[6] on how to improve practice have been suggested. [7].Also identified predictors of non compliance with techniques applied during routine patient care.

Guidelines published by[8] stated that hand washing should always be done:

- Before performing invasive procedures.
- Before and after contact with wounds.
- Vigorous hand washing with antimicrobial for at least 10 seconds
- Before contact with susceptible, and
- After contact with a source likely to be contaminated.

The guideline stated that hand washing is not required after brief, routine, direct patients contact such as shaking hands or measuring blood pressure[9]

According to[10] the practice of hand washing was considered to be the most effective means of preventing health care associated infections but it is poorly performed. A total of 133 nurses were observed in maternity clinic, hand washing compliance was significantly better after a hand washing opportunity compared to before a hand washing opportunity. [11], carried out observations of hand washing practise in two hospitals, observations were performed on 49 separate occasions for a total of 45 hours. A total of 560 health care, worker-patient interactions were observed, resulting in 729 hand washing opportunities. A total of 305 hand washing opportunities were observed in the old hospital and 424 in the new hospital. Of the 560 health care worker-patient interactions observed, 237 of the workers were registered nurses, 190 were physicians, and 133 were other health care workers. Hand washing compliance was significantly greater in the old hospital compared to the new hospital. After all hand washing opportunities were assessed, they found out that hand washing compliance was significantly better after a hand washing opportunity compared to before a hand washing opportunity. A recent evaluation of nurse's behavior found out that only 8.5% of student nurses washed hands after patient contact[11].

In an observational study conducted in a hospital, health care workers washed their hands an average of five times per shift[3]. Certain nurses washed their hands 10 times per shift. Hospital wide surveillance of hand washing reveals that the average number of hand washing opportunities varies markedly between hospital wards.

One measure recommended to improve the hand washing rate is enhanced assess to hand hygiene facilities[9]. According to[12]. general factors that influenced proper hand washing practices have been reported and these are: lack of adherence to recommendation include skin irritation, inaccessible hand washing supplies, interference with worker-patient relationship, patient needs perceived as priority, wearing of gloves, forgetfulness, insufficient time and high work load and lack of standard guidelines for hand washing practices[13]. [12], listed hindrances to non-compliance to hand washing to include:

Ineffective and inadequate provision of water, lack of appropriate facilities and materials in health care setting.

[14] , also listed hindrance due to inconveniently located or insufficient number of sinks. The lack of easy access to hand hygiene supplies whether sink, soap, medicated detergents, waterless alcohol base hand rub solution is self explanatory according to[6], [15]Pathogens are readily transmitted by health workers hands, and hand hygiene sustainably reduces this transmission. The researchers observed that few nurses and medical personnel they came in

contact with in the hospital did not pay attention to hand washing, resulting to wounds breakdown, sepsis and prolonged hospital stay, hence the need for this study.

PURPOSE: The research was undertaken to assess the practice of hand washing among nurses for the prevention of nosocomial infection, in General Hospital Ikot Ekpene, Akwa Ibom State,Nigeria.

SPECIFIC OBJECTS OF THE STUDY
❖ To assess the level of knowledge of hand washing among nurses for prevention of nosocomial infections in General Hospital Ikot Ekpene.Akwa Ibom State,Nigeria.
❖ To ascertain the practice of hand washing among nurses for prevention of nosocomial infections in General Hospital Ikot Ekpene.Akwa Ibom State,Nigeria.

MATERIALS AND METHODS

Research Design: The study was a descriptive survey which was institution based.

RESEARCH SETTING:
The setting was Ikot Ekpene and the site was General Hospital Ikot Ekpene. Ikot Ekpene Local Government Area is one of the Local Government Areas in Akwa Ibom State. The choice of the site is that it is one of the foremost Hospitals in Akwa Ibom State with adequate equipments and facilities for training of nurses and a secondary health facilities caring for patients in the area.

POPULATION: The target population of the study consisted of nurses from all the wards totallying two hundred and twelve (212) nurses. The accessible population was 102 nurses, 24 from male/female surgical wards, 24 from theatre, 32 from maternity and 22 from intensive care unit. 100% 0f the accessible population of nurses who rendered services directly to the patients were used.Exclusion criteria include nurses not directly rendering services to patients.

RESEARCH INSTRUMENT: A self developed structured questionnaire and observational check list were used to obtain data from the respondents. Section A sought demographic information of the respondents. Section B sought information on knowledge of hand washing while Section C was observational checklist designed to assess the respondents practice of hand washing.Positive comments by psychometric experts were suggestive for the face validity of the instruments. A measure of its stability over time was assessed using a test – retest procedure which yielded a reliability coefficient of 0.8% after an interval of two weeks.

DATA ANALYSIS
Data generated were analysed using descriptive-statistics.

ADMINISTRATIVE DESIGN: An official permission was obtained from the institution, then informed consent was obtained from the subjects who participated in the study.

HUMAN RIGHT AND ETHICAL CONSIDERATION: The subject were chosen according to criteria and questionnaire was administered after their informed consent was obtained to participate in the study. Thereafter, the purpose of the study was explained to all participants and their consent obtained. Anonimity was maintained and it was strictly confidential.

Table1. Knowledge of hand washing for prevention of Nosocomial infection among nurses in General Hospital Ikot Ekpene = n=102

Variables	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Hands should be wash before and after every procedure	102	100%	__	__
Use nail brush and finger brush when washing the hands	80	(78.4)	22	(21.6)
Hands should be washed before and after contact with each patients	100	(98)	2	(2)
Nurses should wash their hand for 10-15 seconds with lotion	42	(41.2)	60	58.8
After washing, hands should be dried with towels.	96	(94.1)	6	5.9

The result on Table 1 on knowledge of hand washing in prevention of nosocomial infections in General Hospital revealed that,102 (100%) of all the nurses agreed that nurses should wash hands before and after every procedure. Eighty (78.4) nurses agreed that nail and finger brush should be used while washing hands. While 22(21.6%) disagreed. One Hundred (98%) nurses agreed that hands should be washed before and after contact with patients, while 2(2%) disagreed. On nurses should wash their hands 10-15 seconds with lotion, 42 (41.2%) nurses agreed and

60 (58.8%) said no. Ninety – six (94.1%) nurses said hands should be dried with towel after washing, while 6 (5.9%) said no.

TABLE 2. Summary of Respondents Knowledge of Hand Washing for Prevention of Noscomial Infections in General Hospital Ikot Ekpene

Level of knowledge of hand washing for prevention of noscomial infections	Number of respondents	percentages
Good knowledge (50-100%)	84	82.4%
Poor knowledge (10-49%)	18	17.6%

The result on table 2 on summary of knowledge of hand washing for prevention of nosocomial showed that 84 (82.4%) respondents had good knowledge, while 18 (17.6%) respondents had poor knowledge.

Table 3 Observational checklist on practice of hand washing among nurses in prevention of Nosocomial infection in General Hospital, Ikot Ekpene. n = 102

S/N		Always		OCCASIONAL		NEVER	
		Frequency	Percentage	Frequency	Percentage	Frequency	percentage
1.	Wash hand thoroughly by holding them together running water and apply soap to the hand.	42	(41.2)	36	(35.3)	24	(23.5)
2.	Wash the hands with anti-microbial thoroughly for 10–15 seconds.	39	(38.2)	47	(46.1)	16	(15.7)
3.	Hold the hand lower than the elbow for water to flow from the arms to the finger.	48	(47.1)	28	(27.5)	26	25.4
4.	Thoroughly wash and rinse hands using firm rubbing And circular movement.	36	(35.3)	38	(37.2)	28	(27.5)
5.	Thoroughly dry hands and arms using disposable, towel and discard approximately.	50	(49)	28	(27.5)	24	(23.5)

Table 3 showed the result of observations of practise of hand washing by the nurses in General Hospital Ikot Ekpene. Observations on hand washing thoroughly with soap by nurses revealed that 42 (41.2%) respondents does that always, 36.(35.3) respondents does that occasionally while 24 (23.5%) never did. Thirty nine (38.2%) nurses always washed hands thoroughly for 10 – 15 seconds with lotions, 47 (46.1) nurses never did. On holding hands lower than the elbow for water to flow from arm to finger 48(47.1%) nurses does it always, 28 (27.5%) did occasionally, while 26 (25.4%) did not. Thirty six (35.3%) used firm, rubbing circular movement always when washing and 38 (37.2%) did occasionally wile 28(27.5%) never did. Observations on drying of hands and arms using disposable towel and discard approximately showed 50 (49%) doing it always, 28 (27.5%) did occasionally, while 24 (23.5) did not do at all.

Table 4 Summary of Observation on Practise of Hand washing by Nurses in General Hospital Calabar

PRACTISE OF HAND WASHING	NUMBER OF NURSES	PERCENTAGE
Always practised hand washing	43	42.2%
Occasionally practised hand washing	35	34.3%
Never practised hand washing	24	23.5%

Summary of the observation on practise of hand washing revealed that 43 (42.2%) respondents always practised hand washing,35 (34.3%) practised occasionally while 24 (23.5%) never practised. The above result showed poor practise.

DISCUSSION

The result on lack of knowledge of hand washing among nurses for the prevention of nosocomial infections in General Hospital Ikot Ekpene revealed that majority of the nurses 84 (82.4%) had good knowledge while 18 (17.6%) had poor knowledge of hand washing duration of which they were to spend washing their hands for routine client care. The CDC recommends antimicrobial soap plus vigorous hand washing under a stream of water for at least 10 seconds. The above result is at variance with study conducted by[5] who discovered poor knowledge level among nurses in prevention of infections in General Hospital Calabar. However, the above result is supported by[4] who discovered good level of knowledge of hand washing among nurses in University of Calabar Teaching Hospital. This may be as a result of continuing education for nurses on infection control always conducted for nurses in the hospital. The result in practice of hand washing showed that the prevention of nosocomial infection is poor. This result is supported by[3] study on hand washing in Urban emergency unit; the result showed a significant no relationship between nurses knowledge of hand washing and practice of hand washing. Also[5] supported the above findings when the study on hand washing in General hospital in Calabar showed poor practise of hand washing by nurse. Also the above result is at variance with[10] who observed that in maternity clinic, hand washing compliance

was significantly better after a hand washing opportunity and education. According to[7],the practice of hand washing varies from one hospital to another. The reason for non-compliance in practice according to[13]which may be due to insufficient and inaccessibility to hand washing material and lack of standard guidelines for hand washing practise. [9]recommended enhanced assess to hand hygiene facilities as one of the measures to improve hand washing practise.

CONCLUSION

Based on the findings, it could be observed that the nurses were knowledgeable on the practice of hand washing on the prevention of nosocomial infections but they could not practise it effectively because of lack of standard guideline on hand washing practise and inadequate prevention of materials for hand washing in the hospital.

Recommendations

The following recommendations were made based on the findings:

❖ The hospital should provide adequate materials and facilities to promote effective and quality services to the patients.

❖ Seminars and continuing education should be organized at frequent interval for nurses to update their knowledge on hand washing for prevention of nosocomial infections.

❖ Also the hospital authority should provide standard guidelines published by Centres for disease control on hand washing in all the wards for nurses to refresh their memory.

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