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NURSES INTERVENTION STRATEGIES FOR HOSPITALISED PATIENTS WITH PRESSURE INJURIES IN HEALTHCARE FACILITIES IN ANAMBRA STATE, NIGERIA

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ABSTRACT

Purpose: The study evaluated nurses' intervention strategies for hospitalized patients with pressure injuries in healthcare facilities in Anambra State, Nigeria.

Methodology: Cross sectional design was used for the study. A convenient sampling technique was used to select 168 nurses from a population of 290 nurses. A self-structured questionnaire with Cronbach Alpha coefficient of 0.70 was used for data collection. Data obtained were summarized using descriptive statistics of frequency counts, percentages and mean scores.

Results: Findings from the study revealed that 70.2% of the nurses responses which gave an insignificant p-value ($p > 0.05$) showed that nurses' attitude towards pressure injury prevention in was poor. For nurses' practice of pressure injury prevention, the p-value ($p > 0.05$) was statistically insignificant as 65.5% of nurses never give advice to patients or caregivers regarding pressure injury preventive care before discharging the patient showing that pressure injury prevention was poor. Also 66.7% of nurses never carried out assessment procedures of pressure injury during treatment of patients with pressure injury and 80% of the nurses do proper documentation of pressure injury/wound characteristics. There was a significant relationship between nurses working experience and practices regarding pressure injury prevention; there was a relationship between nurses' extent of treatment on patients with pressure injury and nurses' rank but there was no significant relationship between nurses' level of documentation of pressure injury and their level of education.

Recommendation: In-service training and refresher courses on pressure injury for nurses, implementation of hospital policies and guidelines to promote positive nurses' attitude towards pressure injury prevention were recommended.

Keywords: *Nurses, Pressure, Injury, Patients, Care.*

INTRODUCTION

According to National Pressure Ulcer Advisory Panel Pressure Injury Staging System [NPUAP] (2016), the term “pressure injury” refers to the term ‘pressure ulcer’ or “decubitus ulcer”. A pressure injury is localized damage to the skin and/or underlying soft tissue usually over a bony prominence or related to a medical or other device (NPUAP, 2016). They can happen to anyone, but usually affect people confined to bed or who sit in a chair or wheelchair for long periods of time. Pressure ulcers can affect any part of the body that's put under pressure. Pressure injuries are most common on bony parts of the body, such as the heels, elbows, hips and base of the spine. They often develop gradually, but can sometimes form in a few hours (NHS, 2020). It causes considerable to patients, hindering functional recovery, frequently causing pain and development of serious infections. It is also associated with extended length of stay, sepsis and mortality (Institute for Healthcare Improvement, 2022). Pressure injuries are common problems in health care and represent a significant burden on patients, their relatives and caregivers.

The statistics of world injury day show that nearly 700,000 were affected by pressure injury each year; about 186,617 patients develop a new pressure injury in the acute care setting each year (Nasreen, Afsal & Sarwar, 2017). It has also been shown that between January, 2012 and December 2014, about 4-6% of patients in the acute care setting had pressure in jury (Coyer et. al, 2017; Campbell, Gosley, Coleman & Coyer, 2016). In England, 24674 patients were reported to have developed a new pressure ulcer between April 2015 and March 2016 and treating pressure damage costs the National Health Survey more than £3.8 million every day (NHS, 2018).

In Nigeria, a prospective study of pressure injury prevalence was conducted by Onche, Yiltok and Obiuno (2014) among spinal cord injured patients in Gombe, North Eastern Nigeria. The study revealed that 16 out of 24 patients developed pressure injury. These figures translate to untold patient suffering, care giver anguish, extra work for health care providers and high cost of care. Also, there is a report of increasing incidents of pressure injury in African hospitals including Nigeria (Assefa, Mamo & Shiferaw, 2017; Obilor, Adejumo & Ilesanmi, 2016). Pressure injury is one of the major problems in nursing and is frequently complicated by secondary infection which can spread to other tissues like bones thereby causing osteomyelitis and septicaemia which can lead to death (Basavanthappa, 2015).

Nursing remains at the forefront of protecting and safeguarding patient from pressure injuries. The presence or absence of pressure ulcers has been generally regarded as a performance measure of quality nursing care and overall patient health (Mwebaza, Katende, Groves & Nankumbi, 2014). It is evident from the foregoing that pressure injuries are an important health problem, both for people with pressure injury and their caregivers and for health institutions and professionals. Again, with the knowledge acquired, the best strategy to cope with this problem is to prevent it, since the majority of pressure injuries can be avoided if the appropriate preventive measures are applied with adequate resources and within the correct context. A study conducted in the United States demonstrated that pressure ulcers can be avoided by applying simple interventions like using risk factor assessment scales and regular turning of the patient by the nurses or by the nurse instructing a care taker (Chou, Dana & Bougatsos, 2013). Considering nursing actions as the central tool for the prevention of pressure injuries (Clark, Black, Alves, Call & Dealey, 2014), it became imperative for the researcher to investigate the Nurses’

intervention strategies for hospitalized patients with pressure injuries in healthcare facilities in Anambra State, Nigeria.

Purpose and Objectives: The general purpose of this study was to evaluate nurses' intervention strategies for hospitalized patients with pressure injuries in healthcare facilities in Anambra State, Nigeria.

Specific objectives of the study were to:

1. Assess nurses' attitude towards pressure injury prevention in healthcare facilities in Anambra State
2. Evaluate nurses' practice of preventive measures on patients with pressure injuries in selected healthcare facilities in Anambra State
3. Assess nurses' extent of treatment of patients with pressure injuries in healthcare facilities in Anambra State.
4. Assess nurses' documentation of interventions on patients with pressure injuries in healthcare facilities in Anambra State.

Jean Watson theory of human caring was utilized in the study. The theory has the nursing process/scientific research process approach trying to enhance decision making when caring for patients with pressure injury.

METHODOLOGY

Study design: This study utilized a cross-sectional survey design.

Study Setting: This study was carried out at three (3) selected hospitals located at the three (3) major cities in Anambra State. Two tertiary health institutions and one (1) secondary health institution namely Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Awka (COOUTH) and General Hospital Onitsha.

Target Population: The target population for the study was all the nurses working in the orthopaedic, neurology, surgical, medical and cardiology wards of NAUTH, Nnewi, COOUTH, Amaku and General Hospital Onitsha. Total number of nurses working in these wards were 150 nurses at NAUTH, 80 nurses at COOUTH and 60 nurses at General hospital Onitsha making the total population for the study to be 290 nurses. (NAUTH, 2017; COOUTH, 2017; and General hospital Onitsha Nominal Roll or Records Unit, 2017).

Sampling Technique: A convenient sampling technique was used for the study. A total of 168 nurses who were on duty and disposed at the time of study participated in the study. 168 was the sample size calculated with Yaro Yamane formula. Six (6) wards selected in the two (2) tertiary health institution and one (1) secondary health institution. The areas for the study were orthopaedic, medical and surgical wards of the hospitals.

Research Instrument: A self-structured questionnaire was used in gathering the necessary data suitable for the study. The questionnaire was based on the four (4) objectives set for the study. The first is section A: Socio-demographic data of the respondents, Section B; nurses' attitude regarding pressure injury prevention, Section C; nurses' practice regarding pressure injury

prevention, Section D; Nurses extent of treatment on Patients with Pressure injuries, Section E; nurses level of documentation of pressure injury/wound characteristics

Validity of the Instrument: The face and content validity of the instrument was determined through the expert judgement of three (3) lecturers and a Clinician: two from department of nursing; one from department of Statistics and the Clinician from nursing services NAUTH, Nnewi.

Reliability of the Instrument: The reliability of the instrument was determined using split-half reliability method. Twenty copies of the instrument were administered to nurses working at Federal Medical Center, Asaba. The data from the copies of the questionnaire administered were collated and analysed to determine the internal consistency of the instrument using Cronbachs Alpha statistic. The reliability Coefficient was calculated to be 0.76 thereby indicating that the instrument is reliable.

Data Collection Procedure: Three (3) research assistants were educated on what to do. They helped in administration and collection of the questionnaire. The researcher and his assistants obtained consent from the respondents before administering the copies of the questionnaire which were filled at the spot and returned rate was 100%.

Method of Data Analysis: The data were coded and entered into spread sheet. Analysis was done using SPSS version 20.0. Descriptive statistics was used such as frequency distribution table, percentages, mean and standard deviation to summarize and present the result. Hypotheses were tested using Mann-Whitney U test for data involving two variables and Krukals- Wallis H test for data involving three or more variables. Spearman Rank Order Correlation coefficient was used to test the relationship between variables. Statistical significance was set at 0.05 level.

Ethical Consideration: An approval was obtained after a proposal of the study was presented to the Ethics Committee, Faculty of Health Science and Technology, College of Health Sciences, Nnamdi Azikiwe University, Nnewi Campus, Anambra State. Also, the Researcher got letter of identification from the Department of Nursing Science, Nnamdi Azikiwe University, Nnewi Campus before data collection. Anonymity of respondents and voluntary participation were ensured. The respondents' right was maintained by ensuring that their consents were sought.

RESULTS

Table 1: Frequency, percentage, mean and standard deviation of socio demographic data of respondents (nurses) in Anambra State.

Statement	Variables	Frequency (%)	Mean±SD
Sex	Female	154(91.7)	1.08±0.27
	Male	14(8.3)	
Years of Exp	< 5 years	44(26.2)	2.80±1.31
	6-10 years	20(11.9)	
	11-20 years	42(25.0)	
	21-29 years	49(29.2)	
	30 years and above	13(7.7)	
Ward	Male orthopedic	37(22.0)	2.91±1.30
	Female orthopedic	26(15.5)	
	Male medical ward	32(19.0)	
	Female medical ward	60(35.7)	
	Neurosurgical ward	13(7.7)	
Rank	Nursing officer	51(30.4)	2.73±1.55
	Senior nursing officer	36(21.4)	
	Principal nursing officer	28(16.7)	
	Assistant chief nursing officer	12(7.1)	
	Chief nursing officer	41(24.4)	
Level of education	RN/RM Bachelor in nursing	87(51.8)	
	Masters in nursing	77(45.8)	
	PhD in nursing	4(2.4)	

From the table 1, it shows that most of the participants were female nurses with 91.7% in which most of them have within 21-29 years of experience. Most of the nurses work in the female medical ward and nursing officers were most of the respondents rank, only a smaller percentage of nurses that had the highest rank which was assistant chief nursing officer which was the least rank attained by respondents and also most of the nurse respondents acquired Bachelor in nursing as their highest level of education, followed by Masters in nursing with PhD in Nursing having the lowest frequency in the group.

Table 2: Nurses' attitude towards pressure injury prevention in Anambra State.

Sn	Statement	Disagree	Unsure	Agree	Mean±SD
6	Most risk factors of pressure injury can be avoided in in-patients	41(24.4)	26(15.5)	101(60.2)	3.74±1.32
7	Prevention of risk factors for pressure injury is time consuming for me to carry out	53(31.5)	34(20.2)	81(48.2)	3.24±1.18
8	I am less interested in pressure injury prevention than other aspects of nursing care	3(1.8)	18(10.7)	147(87.5)	4.13±0.66
9	My clinical judgment is better than any pressure injury risk assessment tool available to me	47(28)	46(27.4)	75(44.6)	2.93±1.19
10	Patient who is at risk for pressure injury development should be assessed at the first day of admission	11(6.6)	38(22.6)	119(70.9)	4.17±1.04
11	Pressure injury risk assessment should not be regularly carried out on all patients during their stay in hospital	1(0.6)	33(19.6)	134(79.7)	4.38±0.81
12	All data about pressure injury should be documented at the time of assessment and reassessment	2(1.2)	5(3.0)	161(95.8)	4.57±0.61
13	Pressure injury is an important indicator for quality of nursing care	26(15.5)	2(1.2)	140(83.3)	4.23±1.16
14	Patients relative should not be advised to assess patient's skin during bathing a patient	1(0.6)	21(12.5)	42(86.9)	4.48±0.73
15	Patient should be cleaned immediately after soiled	13(7.7)	26(15.5)	129(76.8)	4.37±1.00
16	Patient should be massaged at the bony prominences after turning position	10(6.0)	24(14.3)	134(79.8)	4.22±0.94
17	I think that nutritional status of a patient is not a problem for pressure injury development	1(0.6)	14(8.3)	153(91.1)	4.57±0.67
18	I feel overwhelmed turning my patient who is at risk for pressure injury every 2 hours	4(2.4)	11(6.5)	153(91.1)	4.61±0.71
19	I value that joining educational activities on pressure injury prevention is important for my practice	19(11.3)	6(3.6)	143(85.1)	4.33±1.26

From table 2, 60.2% of the nurses agreed to the statement that most risk factors of pressure injury can be avoided in in-patients towards pressure injury prevention. 48.2% of the nurses agree to prevention of risk factors for pressure injury is time consuming for me to carry out towards pressure injury prevention. Also, 87.5% of the nurses agree to the above statement towards pressure injury prevention while 44.6% of the nurses agreed to the above statement towards pressure injury prevention. On question 10, 70.9% of the nurses agree to the above statement towards pressure injury prevention. Question 11 shows 79.7% of the nurses agree to the above statement towards pressure injury prevention. 85.8% of the nurses agreed that all data about pressure injury should be documented at the time of assessment and reassessment towards pressure injury prevention. 83.3% of the nurses agree that pressure injury is an important indicator of quality of nursing care and 86.9% of the nurses agree that patients relative should not be advised to assess patients' skin during bathing. 76.8% of the nurses agree that patient should be cleaned immediately after soiled. Also, 79.8% of the nurses agree that patient should be massaged at the bony prominences after turning position. In addition, 91.1% of the nurses agree that nutritional status of a patient is not a problem for pressure injury development and 91.7% of the nurses agree to be overwhelmed turning patient every 2 hours. 85.1% of the nurses agree to join educational activities on pressure injury prevention is important for their practice.

Table 3: Nurses' practice of pressure injury prevention in Anambra State.

Sn	Statement	Always	Sometimes	Rarely	Undecided	Never	Mean±SD
20	I Identified common contributing factors for pressure injury development by periodical assessment of patient's skin	1(0.6)	1(0.6)	14(8.3)	56(33.3)	96(57.1)	4.45±0.72
21	I do skin assessment that is guided by a standard nursing care available	2(1.2)	14(8.3)	14(8.3)	85(50.6)	53(31.5)	4.02±0.91
22	I use risk assessment scale to assess pressure injury	11(6.5)	48(28.6)	29(17.3)	66(39.3)	14(8.3)	3.14±1.12
23	I document all data related to pressure injury development	2(1.2)	44(26.2)	54(32.1)	58(34.5)	10(6.0)	3.17±0.93
24	I place the pillow under the patient's leg to prevent heel injury	0(0)	1(0.6)	26(15.5)	97(57.7)	44(26.2)	4.09±0.65
25	I use or advice caregiver to use creams or oils on patient's skin in order to protect from urine, stool or wound drainage	0(0)	12(7.1)	0(0)	83(49.4)	73(43.5)	4.29±0.79

26	I provide vitamins and food for patients who are malnourish	16(9.5)	20(11.9)	13(7.7)	62(36.9)	57(33.9)	3.73±1.30
27	I monitor protein and calories diet in patient who is bedridden	9(5.4)	25(14.9)	25(14.9)	71(42.3)	38(22.6)	3.61±1.14
28	I always use a special mattress to prevent pressure loadings, such as foam, air and water bed mattresses	0(0)	13(7.7)	16(9.5)	98(58.3)	41(24.4)	3.99±0.80
29	I avoid using donut- shape (ring) cushion at bony prominences to prevent pressure injury formation	0(0)	0(0)	28(16.7)	56(33.3)	84(50.0)	4.33±0.74
30	I do turn a patient position every two hours	6(3.6)	45(26.8)	82(48.8)	26(15.5)	9(5.4)	2.92±0.88
31	I put pillow under patients' leg from mid-calf to ankle in order to keep heels off the bed	0(0)	0(0)	0(0)	115(68.5)	53(31.5)	4.31±0.46
32	I give advice to patients or caregivers regarding pressure injury preventive care before discharging the patient from hospital	0(0)	0(0)	0(0)	0(0)	110(65.5)	4.65±0.47

Table 3 shows that in identifying common contributing factors for pressure injury development by periodical assessment of patient's skin 57.1% of the nurses never did. On skin assessment that is guided by a standard nursing care available, 31.5% of the nurses never carried such assessment. On use of risk assessment scale to assess pressure injury in patient, 8.3% of the nurses never carried such assessment. In documentation of data related to pressure injury development in patients 6.0% of the nurses never documented. 26.2% of nurses do not place pillow under the patient's leg to prevent heel injury. From the table, 43.5% of nurses never advice caregiver to use creams or oils on patient's skin in order to protect from urine, stool or wound drainage. Also, 33.9% of nurses never provide vitamins and food for patients who are malnourished. 22.6% of nurses never monitor protein and calories diet in patient. Also, 24.4% of nurses never use special mattress to prevent pressure loadings and 50.0% of nurses never avoid using donut- shape cushion at bony prominences to prevent pressure injury. 5.4% of nurses never turn a patient position every two hours. 31.5% of nurses never put pillow under patients' leg from mid-calf to ankle in order to keep heels off the bed. The table also shows that 65.5% of nurses never give advice to patients or caregivers regarding pressure injury preventive care before discharging the patient.

Table 4: Nurses' extent of treatment on patients with pressure injury in Anambra State

Sn	Statement	Always	Sometimes	Rarely	Undecided	Never	Mean±SD
33	I avoided the factors that contribute to pressure injury	0(0)	0(0)	0(0)	43(25.6)	125(74.4)	4.74±0.43
34	Assessment procedures of pressure injury done	0(0)	0(0)	28(16.7)	28(16.7)	112(66.7)	4.50±0.76
35	Use of scale for risk assessment of pressure injury	0(0)	0(0)	30(17.9)	0(0)	138(82.1)	4.64±0.76
36	Treated early signs of pressure injury development	0(0)	0(0)	15(8.9)	27(16.1)	126(75.0)	4.66±0.63
37	Application of proper method of skin care for pressure injury treatment	0(0)	0(0)	14(8.3)	28(16.7)	126(75.0)	4.66±0.62
38	Other significant nurses' action for pressure injury treatment	0(0)	14(8.3)	0(0)	28(16.7)	126(75.0)	4.58±0.86
39	Reduction of moisture in elderly Patients	0(0)	0(0)	28(16.7)	15(8.9)	125(74.4)	4.57±0.76
40	Reduction of heel pressure	0(0)	0(0)	13(7.7)	43(25.6)	112(66.7)	4.58±0.63
41	Use vitamins to maintain healthy Skin	0(0)	0(0)	28(16.7)	29(17.3)	111(66.1)	4.49±0.76
42	Apply appropriate nursing care for reducing weight of beddings on clients	0(0)	13(7.7)	13(7.7)	44(26.2)	98(58.3)	4.35±0.92
43	Equipped on best educational activity that enhances competency of staff nurses in treating pressure injury	0(0)	43(25.6)	28(16.7)	13(7.7)	84(50.0)	3.82±1.29
44	Comply with other pressure injury treatment	14(8.3)	0(0)	0(0)	58(34.5)	96(57.1)	4.32±1.10

Table 4 shows that 74.4% of nurses never avoided the factors that contribute to pressure injury during extent of treatment on patients with pressure injury. 66.7% of nurses never carried out assessment procedures of pressure injury during treatment on Patients with pressure injury. 82.1% of nurses never use scale for risk assessment of pressure injury during extent of treatment on patients with pressure injury. 75.0% of nurses never treated early signs of pressure injury development during extent of treatment on patients with pressure injury. 75.0% of nurses never applied proper method of skin care for pressure injury treatment during treatment on patients with pressure injury. 75.0% of nurses never did other significant nurses' action for pressure injury treatment. 74.4% of nurses never reduced moisture in elderly patients for pressure injury treatment. Also, 66.7% of nurses never reduced heel pressure during treatment on Patients with pressure injury and 66.1% of nurses never advice patients to use vitamins to maintain healthy skin during treatment with pressure injury. Also, 58.3% of nurses never applied appropriate nursing care for reducing weight of beddings on clients during treatment on patients with pressure injury and 50.0% of nurses never equipped on best educational activity that enhances competency of staff nurses in treating pressure injury. 57.1% of nurses' treatment on Patients with pressure injury never comply with other pressure injury treatment.

Table 5: Nurses' level of documentation of pressure injury/wound characteristics in Anambra State

Sn	Statement	Always	Sometimes	Rarely	Undecided	Never	Mean±SD
45	Etiology of injury	60(35.7)	42(25.0)	15(8.9)	46(27.4)	5(3.0)	2.36±1.29
46	Size of injury	91(54.2)	55(32.7)	15(8.9)	7(4.2)	0(0)	1.63±0.81
47	Exudates from the injury	60(35.7)	62(36.9)	28(16.7)	16(9.5)	2(1.2)	2.03±1.00
48	Tissue type involved	15(8.9)	75(44.6)	51(30.4)	23(13.7)	4(2.4)	2.55±0.92
49	Periwound features	0(0)	65(38.7)	58(34.5)	18(10.7)	27(16.)	3.04±1.06
50	Treatment used	0(0)	57(33.9)	33(19.6)	29(17.3)	49(29.)	3.41±1.23
51	Pain addressed	6(3.6)	48(28.6)	47(28.0)	22(13.1)	45(26.)	3.30±1.24
52	Offloading Devices used	27(16.1)	22(13.1)	30(17.9)	36(21.4)	53(31.)	3.39±1.45
53	Direction of healing & duration	90(53.6)	49(29.2)	22(13.1)	7(4.2)	0(0)	1.67±0.85

Table 5 shows that 0.6% of location of injury on treatment on patients with pressure injury were never documented. 3.0% of etiology of injury on patients with pressure injury was never documented, 0.0% of size of injury on patients with pressure injury was never documented, 1.2% of exudates from the injury of Patients with pressure injury were never documented, and 2.4% of

tissue type involved in patients with pressure injury was never documented. Also, 16.1% of Periwound features in Patients with pressure injury were never documented, 29.2% of treatment used on patients with pressure injury were never documented, 26.8% of pain addressed on patients with pressure injury were never documented, 31.5% of nurses never documented offload devices used on patients with pressure injury, 0.0% of nurses never documented direction of healing & duration on patients with pressure injury.

Hypothesis 1- There is a significant statistical relationship (correlation) between nurses working experience and practice regarding pressure injury prevention in Anambra State.

Table 6: Correlation between nurses working experience and practice regarding pressure injury prevention in Anambra State.

Statement	R-value	P-value
I Identified common contributing factors for pressure injury development by periodical assessment of patient's skin	0.17*	0.02
I do skin assessment that is guided by a standard nursing care available	0.05	0.45
I use risk assessment scale to assess pressure injury	-0.18*	0.01
I document all data related to pressure injury development	-0.17*	0.02
I place the pillow under the patient's leg to prevent heel injury	0.20**	0.00
I use or advice caregiver to use creams or oils on patient's skin in order to protect from urine, stool or wound drainage	-0.13	0.08
I provide vitamins and food for patients who are malnourish	-0.20**	0.00
I monitor protein and calories diet in patient who is bedridden	-0.27**	0.00
I always use a special mattress to prevent pressure loadings, such as foam, air and water bed mattresses	0.15	0.05
I avoid using donut- shape (ring) cushion at bony prominences to prevent pressure injury formation	0.30**	0.00
I do turn a patient position every two hours	0.08	0.29
I put pillow under patients' leg from mid-calf to ankle in order to keep heels off the bed	-0.01	0.86
I give advice to patients or caregivers regarding pressure injury preventive care before discharging the patient from hospital	0.04	0.57

Table 6 above shows that there was no statistical significant relationship between correlation of question 21, 25, 30, 31 and 32 and year of experience where $p > 0.05$ while question 20, 22, 23, 24, 26, 27, 28, and 29 of practice regarding pressure injury prevention in Anambra State and years of experience, was statistical significant when correlated with years of experience where $p < 0.05$. This means it is true as there was more significant relationship between nurses working experience and practice regarding pressure injury prevention be it stronger or weaker correlation in Anambra State, hence hypothesis 1 is accepted.

Hypothesis 2: There is a relationship between nurses’ extent of treatment on patients with pressure injury and nurses’ rank in Anambra State.

Table 7: Correlation between nurses’ extent of treatment on patients with pressure injury and rank in Anambra State.

Statement	R-value	p-value
Nurses Rank and I avoided the factors that contribute to pressure injury(Q33)	-0.03	0.63
Nurses rank & Assessment procedures of pressure injury done(Q34)	-0.31**	0.00
Nurses rank & Use of scale for risk assessment of pressure injury(Q35)	0.11	0.15
Nurses rank & Treated early signs of pressure injury development(Q36)	-0.32**	0.00
Nurses rank & Application of proper method of skin care for pressure injury treatment(Q37)	-0.28**	0.00
Nurses rank & Other significant nurses’ action for pressure injury treatment(Q38)	-0.08	0.29
Nurses rank & Reduction of moisture in elderly Patients(Q39)	0.15*	0.04
Nurses rank & Reduction of heel pressure(40)	-0.12	0.09
Nurses rank & Use vitamins to maintain healthy Skin(Q41)	-0.38**	0.00
Nurses rank & Apply appropriate nursing care for reducing weight of beddings on clients(Q42)	-0.34**	0.00
Nurses rank & Equipped on best educational activity that enhances competency of staff nurses in treating pressure injury(Q43)	0.14	0.06
Nurses rank & Comply with other pressure injury treatment(Q44)	0.26**	0.00

From the table 7 above it was observed that there was no statistical significant correlation relationship between rank of nurses and question 33, 35, 38, 40, and 43 where $p > 0.05$ while question 34, 36, 37, 39, 41, 42, and 44 shows statistical significant correlation relationship with ranks of nurses where $p < 0.05$ with 34, 36, 37, 41, 42 and 44 showing a high negative correlation. Therefore base on analysis we can conclude that there was a statistical significant relationship between nurses’ extent of treatment on Patients with pressure injury and Nurses rank in Anambra State. Hypothesis 2 is therefore accepted.

Hypothesis 3: There is no significant relationship between nurses’ level of documentation of pressure injury/wound characteristics and level of education in Anambra State.

Table 8: Correlation of nurses’ level of documentation of pressure injury/wound characteristics and level of education in Anambra State

Statement	R-value	p-value
Level of education & Etiology of injury(Q45)	-0.02	0.70
Level of education & Size of injury(Q46)	-0.05	0.45
Level of education & Exudates from the injury(Q47)	0.07	0.32
Level of education & Tissue type involved(Q48)	0.07	0.32
Level of education & Periwound features(Q49)	-0.17*	0.02
Level of education & Treatment used(Q50)	0.22**	0.00
Level of education & Pain addressed(Q51)	0.09	0.20
Level of education & Offloading Devices used(Q52)	-0.09	0.23
Level of education & Direction of healing & duration(Q53)	-0.20**	0.00

From the table 8, it was observed that there was no statistical significant correlation relationship between level of education level of nurses and question 45,46,47,48,51,52 and 54 where $p > 0.05$ while question 49,50 and 53 shows statistical significant correlation relationship between level of education level of nurses where $p < 0.05$. Therefore, hypothesis 3 is accepted.

DISCUSSION

Objective 1: To assess nurses’ attitude towards pressure injury prevention in healthcare facilities in Anambra State

Results from the study indicated that the majority of nurses showed negative attitude towards pressure injury prevention. These results are in line with the findings of Moore and Price (2014) in Sweden and Ireland to determine attitude of pressure injury among nurses. Attitude of pressure injuries were discovered to be low. Plausible reason for this very low level of attitude may be due to certain factors like knowledge deficit, shortage of nursing staff in the face of limited working time available for direct patient care and unavailability of modern pressure injury prevention equipment in the hospital.

Objective 2: To evaluate nurses’ practice of preventive measures on patients with pressure injuries in selected healthcare facilities in Anambra State.

Findings from the study revealed that nurses’ practice of pressure injury prevention in Anambra state was poor. The consequence is that incidence and prevalence rate of pressure injuries will be

high in Anambra State. This is in line with the observation by Ladan, Garba, Sani, Hadiza and Farouk (2012) in Ahmadu Bello University Teaching Hospital (ABUTH) Shika-Zaria. The major findings was and low level of practice of pressure injury prevention.

Objective 3: To assess nurses' extent of treatment of patients with pressure injuries in healthcare facilities in Anambra State.

Findings on the nurses' extent of treatment on Patients with pressure injury in Anambra State were very low. This implies that patients with pressure injuries are not given the standard treatment according to Agency for Healthcare Research and Quality (AHRQ) published clinical practice guidelines on treating pressure injuries (Rockville, 2014). It translates to high incidence of PI and increase length of hospital stay of patient. This is in line with the study by Onigbinde, Ogunsanya and Oniyanyi (2012) to determine the incidence of pressure injury among inpatients in selected hospitals in South West Nigeria. It was aimed to determine the body parts most susceptible to pressure injury. Within the 12-weeks follow-up period, 44 patients developed nosocomial pressure injuries. The commonest areas where pressure injury developed were the sacrum, heel, greater trochanter and lateral and medial malleoli. This study concluded that the poor practice of PI treatment led to high incidence rate and poor condition of patients with clinical condition most likely to be associated with pressure injury development.

Objective 4: To assess nurses' documentation of interventions on Patients with Pressure Injuries in healthcare facilities in Anambra State.

Findings from this study also revealed that the level of documentation of interventions on patients with pressure injuries and wound characteristics was high among nurses in Anambra State. The findings are not in line with the study conducted by Thomas (2012) at USA, on assessment of nurses' interventions and quality wound documentation following an evidence-based pressure injury educational program (EduP) in a long-term care facility. The quality of nursing documentation in wounds increased considerably after each EduP.

Hypothesis 1: There is a significant relationship between nurses working experience and practice regarding pressure injury prevention in Anambra State.

The hypothesis test on the relationship between nurses working experience and practice regarding pressure injury prevention in Anambra State was significant. The finding therefore suggests that nurses need to increase their knowledge towards pressure injury prevention in order to improve nursing practice and ensure client's safety from pressure injury.

Hypothesis 2: There is a relationship between nurses' extent of treatment on patients with pressure injury and nurses' rank in Anambra State.

There is a highly statistical relationship between nurses' extent of treatment on Patients with pressure injury and Nurses rank in Anambra State. Hypothesis 2 is therefore accepted.

Hypothesis 3: There is no significant relationship between nurses' level of documentation of pressure injury/wound characteristics and level of education in Anambra State.

The hypothesis test of nurses' level of documentation of pressure injury/wound characteristics and level of education was not significant meaning nurses level of education did not increase their documentation of pressure injury. This finding was also in contrast to what Thomas (2012)

discovered at USA. The documentation in elements of the wound characteristics indicated a considerable increase after each educational session. This confirms that educational sessions targeting wound documentation can increase the quality and frequency of nursing documentation.

CONCLUSION

Nurses' attitude, practice and treatment of pressure injury (PI) were found to be low despite their positive documentation. Effective education can bring change in human behaviour especially regarding positive attitudes. Knowledge, attitude and practice (KAP) model literates that, changes in knowledge and attitude of individual can affect practice.

RECOMMENDATION

In-service training and refresher courses on PI prevention should be designed for Anambra Nurses. This should provide them with up-date knowledge on PI prevention which can be translated into practice. Hospital policies and guidelines should be implemented to promote and maintain nurses' attitude in relation to PI prevention. Adequate man-power should be employed in the department of nursing services to compliment the effort of the few on board.

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