

Pressure Ulcer Preventive Practices among Nurses Working in Ekiti State University Teaching Hospital, Ado Ekiti, Nigeria

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Abstract:

PU significantly limits many aspects of an individual's well-being, and quality of life. The study investigated pressure ulcer preventive practices among nurses working in Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria. Specifically, the study investigated the practices of nurses towards prevention of pressure ulcer; determined the attitudes of nurses toward prevention of pressure ulcer; and examined the factors/perceived barriers towards prevention of pressure ulcer. A cross sectional descriptive survey design was adopted. The study population included all professional Nurses working in Ekiti State University Teaching Hospital, Ado Ekiti, Ekiti State. Purposive sampling technique was used for selecting 158 nurses from ten different wards. The instrument used for this study was a self-constructed questionnaire. Data was collected, analyzed and interpreted with SPSS version 23. The descriptive statistics were used to summarize the data collected. Inferential techniques involving chi-square was used to determine the relationship between the variables. All hypotheses were tested at 0.05 level of significance. The result revealed that good practices were displayed among 51.6% nurses. The result implies that the nurses in EKSUTH have good practices. Positive attitude displayed among 96.2% respondents. All the identified perceived barriers, inadequate staffing, Heavy workload, Shortage of pressure relieving devices, etc were found to be responsible except "Nursing leadership styles". The null hypotheses were not rejected for the two hypotheses tested. It was therefore concluded that good practice and good attitude were obtained among EKSUTH nurses. There was no significant association between year of experience and

IJMNHS

Accepted 5 December 2025
Published 16 December 2025
DOI: 10.5281/zenodo.17945484



practice of prevention of pressure ulcer. Similarly, no significant relationship was observed between attitude of EKSUTH nurses and practice of prevention of pressure ulcer. It was recommended among others that more nurses should be employed to reduce workload.

Keywords: Pressure Ulcer, Preventive practice, Attitude, Nurses,



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Introduction

Lack of knowledge and skills in prevention of pressure ulcer contributes greatly to the occurrence or poor healing of the wound. Knowledge, attitudes and skills are necessary to provide effective health care. Literature about the knowledge of health care providers towards pressure ulcers prevention is inconsistent. Nurses did not comply with best practice guidelines due to poor knowledge of the prevention of pressure sores (Ingwu et al., 2019). According to Esan et al. (2018), in their study among nurses in tertiary institutions in Nigeria sported an important knowledge deficit with 65.6% lacking knowledge about recommended prevention practices, including screening of patients at risk. Adequate knowledge and positive attitude on pressure ulcer prevention is crucial for nurses (NPUAP, 2019). Such knowledge will help the nurse to take decision on whether or not the patient is at higher risk and need prevention. It will also assist in knowing what method of preventive strategies to be used, and how it will be best practiced. Although scientific advances in health care evidence-based guidelines and recommendations for pressure ulcers prevention are available globally, yet the problem is still very common in health care facilities around the world (Blenman & Marks-Maran, 2017).

Pressure ulcers prevention remains a significant challenge for nurses (Blenman & Marks-Maran, 2017), and its occurrence is considered a sign of poor quality nursing and medical care. Persons with pressure ulcer suffers from pain, discomfort, prolonged illness, increased hospital stay, disability and may even face death resulting from the ulcer and its complications (Clark et al., 2019), the incidence rates of clinical pressure ulcers vary considerably by clinical setting; ranging from 0.4 to 38% in acute care, from 2.2 to 23.9% in long term care, and from zero to 17% in home care (Ingwu et al., 2019). PUs significantly limits many aspects of an individual's well-being, including general health and physical, social, financial, and psychological quality of life (NPUAP, 2019). The Braden Scale for predicting pressure ulcer risk is a tool that was developed in 1987 by Barbara Braden and Nancy Bergstrom. The purpose of the scale is to help health professionals, especially nurses, assess a patient's risk of developing a pressure ulcer. From the researcher's clinical experience in EKSUTH, it has been observed that patients who stay for extended period of time in the hospital, Ekiti State University Teaching Hospital develop pressure sore.

Currently, there is trivial evidence on nurses' knowledge attitude and practices regarding pressure ulcer prevention in public hospitals in Nigeria. World Stop Pressure Ulcer Day showed that nearly 700,000 patients are affected by pressure ulcers yearly and more than 2.5 million. Americans develop pressure ulcers each year (Brindle et al., 2015). Reports from different studies have shown that Pressure ulcer prevalence varies from country to country (Clark et al., 2017; Adegoke et al., 2013; Moore et al., 2013). Reports from these studies indicate the prevalence of pressure ulcer in different regions as follows: Jordan (12%), Nigeria (3.22%), Norway, (17%), Ireland, (16%), Denmark, (15%), Sweden, (25%), Irish (9%), Norway, (54%), Ireland, (12%), & Wales (8.9%) respectively.

Moreover, a worldwide health care budget that is spent on prevention and treatment of patients with extended hospital stays from pressure ulcer development amounts more than a billion dollars (Adegoke et al., 2013). Nurses have been studied to have poor knowledge regarding risk factors of pressure ulcer development. Findings from (Ahn et al., 2016) in their



study on Caregivers' knowledge and practice toward pressure ulcer prevention in National Orthopedic Hospital, Enugu, Nigeria revealed poor knowledge among the participants with more than half of the respondent (67.3%) having low knowledge on pressure ulcer prevention among caregivers. Also, Ebi et al. (2017) in their study carried out Ethiopia reported a negative attitude of most nurses towards pressure ulcer prevention. Major barriers identified by the respondents affecting prevention of pressure ulcer practice include: heavy work load/inadequate staff or lack of time 185 (83.3%), Shortage of resources (equipment/resources) 150 (67.6%), Inadequate training coverage of pressure ulcer prevention 140 (63%) and lack of universal guide line on prevention of pressure ulcer 133 (59.9%).

Pressure ulcers (PU) can also be a consequence of badly fitting appliances or casts. Soft tissues are more vulnerable to injury than the skin; consequently, the external appearance of PU may undervalue the extent of the injury (García-Fernández et al., 2014). To enhance the high quality of their caring, nurses should have up-to-date knowledge and practice regarding the prevention of PU. Knowledge is essential to identify: (a) patients who are at high risk of developing PU (b) measures which are effective in the treatment of PU and (c) how to apply these measures (García-Fernández et al., 2014). A targeted preventive approach will be less costly than one that is focused on treating already established ulcers. Lack of knowledge and skills, and negative attitudes in PU prevention contributes significantly to the occurrence or worsening of PU. Raising nurses' knowledge about PU prevention among nurses not only increases the quality of PU care but also reduces hospital stays, and the number of patients suffering from this condition.

Therefore, this study investigated pressure sore preventive practices among nurses working in Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria. Specifically, the study:

1. investigate the practices of nurses towards prevention of pressure ulcer;
2. determined the attitudes of nurses toward prevention of pressure ulcer; and
3. examined the factors/perceived barriers towards prevention of pressure ulcer.

Research Questions

1. What are the practices of nurses towards prevention of pressure ulcer?
2. What are the attitudes of nurses toward prevention of pressure ulcer?
3. What are the factors/perceived barriers towards prevention of pressure ulcer?

Research Hypotheses

H₀₁: There is no significant relationship between the practice of pressure ulcer preventive techniques adopted by nurses and their years of working experience

H₀₂: There is no significant relationship between the attitude of nurses and their practice on prevention of pressure ulcer

Methodology

Quantitative study that adopted descriptive research design of cross sectional survey type was used to investigate pressure sore preventive practices among nurses working in Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria. The study population included all professional Nurses working in Ekiti State University Teaching Hospital, Ado Ekiti, Ekiti State. Purposive sampling technique was used for selecting nurses from ten different wards which are: Male and Female medical wards, Male and Female surgical wards, Gynaecological wards,



Antenatal ward, Psychiatric ward, Special Care Baby unit, Children ward and Intensive care unit. One hundred and fifty eight (158) respondents from the professional nurses in Ekiti State University Hospital, Ado Ekiti, Ekiti State participated in the study.

The instrument used for this study was a self-constructed questionnaire. Data was collected, analyzed and interpreted with SPSS version 23. Frequency tables for all questions were produced to identify missing information, detecting entry errors, and checking for inconsistencies. The descriptive statistics were used to summarize the data collected. Inferential techniques involving chi-square was used to determine the relationship between the variables. All hypotheses were tested at 0.05 level of significance.

Results

Research Question 1: What are the practices of nurses towards prevention of pressure ulcer?

Table 1: The Practice of prevention of Pressure Ulcer among Nurses

	O	A	S	R	N	M	SD	REM
I practice skin assessment on my patients	48	75	35	2	-	4.08	0.722	G.P
I avoid massage to prevent pressure ulcer	30	105	18	2	-	4.05	0.600	G.P
I make use of risk assessment scale for prevention of pressure ulcer	44	42	32	43	1	3.48	1.16	G.P
Documentation of all data relating to PU development is done	1	17	102	37	-	2.88	0.598	P.P
I practice skin care as a routine work	3	80	73	2	-	3.53	0.560	G.P
I turn patient's position every two hours to prevent pressure ulcer	6	85	65	2	-	3.60	0.585	G.P
I place pillow under the patient's leg to prevent ulcer among patients	9	13	74	62	-	2.80	0.817	B.P
I make use of special mattress to prevent pressure ulcer among patient	6	11	99	42	-	2.87	0.689	B.P
I pay more attention to pressure points to prevent pressure ulcer	40	96	19	3	-	4.09	0.665	G.P
I make use of topical cream to prevent pressure ulcer	12	9	123	14	-	3.12	0.661	G.P
Summary	Poor Practice: 77(48.4%) Good Practice: 81(51.6%)							



E.M=3.0, N=158 *O=Often. A=Always. S= Sometimes, R= Rarely, N= Never, M = Mean, SD = Standard deviation, E.M= Expected Mean, G.P= Good Practice, P.P = Poor Practice, Rem = Remark*

Table 1 accounted for the practice of prevention of pressure ulcer among EKSUTH nurses. Out of ten items on practice of prevention of PU, seven items were found to show good practice. The items are 1, 2, 3, 5, 6, 9 and 10 with mean values ranging between 3.12 and 4.09 which are well above expected mean value of 3.0. On the other hand, item 4, 7 and 8 had mean values of 1.16, 2.80 and 2.87 respectively. A further analysis of the above data through transformation and exploration of the data revealed poor practice of 77 (48.4%) and good practice of 81 (51.6%). The result implies that the nurses in EKSUTH have good practice.

Research Question 2: What are the attitudes of nurses toward prevention of pressure ulcer?

Table 2: Attitude of EKSUTH Nurses on Prevention of Pressure Ulcer

	SA	A	D	SD	U	M	SD	Remark
All patient are at potential risk of developing pressure ulcers	54	66	17	21	-	3.96	0.99	G.A
Pressure ulcer prevention is time consuming for me to carry out	15	54	68	19	1	3.40	0.846	G.A
In my opinion, patients tend not to get as many pressure ulcers nowadays	11	64	67	-	16	3.44	0.769	G.A
I do not need to disturb myself with pressure ulcer prevention in my practice	-	3	122	33	-	2.81	0.439	P.A
Pressure ulcer treatment is a greater priority than pressure ulcer prevention	-	6	51	101	-	2.39	0.56	P.A
Continuous assessment of patients will give accurate account of their pressure ulcer risk	49	106	2	-	-	4.29	0.56	G.A
Most pressure ulcers can be avoided	110	43	5	-	-	4.66	0.486	G.A
I am less interested in pressure ulcer prevention than other aspects of care	1	2	137	14	2	4.66	0.536	G.A
My clinical judgment is better than any pressure ulcer risk assessment tool available to me	1	5	108	38	5	2.91	0.41	P.A



Pressure ulcer risk assessment should be regularly carried out on all patients during their stay in hospital	97	57	4	-	-	2.73	0.601	P.A
Summary	Poor Attitude: 5 (3.8%) Good Attitude: 153 (96.2%)							

E.M = 3.0 **SA=Strongly Agree, A=Agree, D= Disagree, SD= Strongly Disagree, U= Undecided, M = Mean, SD = Standard deviation, E.M= Expected Mean, G.A = Good Attitude, P.A = Poor Attitude**

In above table, item 1,2,3,5,9 and 10 had mean values higher than weighted/expected mean hence the items are considered to have good attitude while items 4, 6, 7 and 8 had mean values of 2.81, 2.39, 2.91 and 2.73 respectively, which are less than expected mean of 3.0 and they are considered to have poor attitude. A critical analysis of the above data through transformation and exploration of the data revealed poor attitude of 5 (3.8%) and good attitude of 153 (96.2%). Therefore, it implies that the sampled nurses had good attitude towards practice of pressure ulcer prevention.

Research Question 3: What are the factors/perceived barriers towards prevention of pressure ulcer?

Table 3: Perceived barriers towards Prevention of PU among Nurses in EKSUTH

S/N	Items	Mean	SD	EM	Remark
1	Inadequate staffing	2.00	0.000	1.50	Responsible
2	Heavy workload	2.00	0.000	1.50	Responsible
3	Shortage of pressure relieving devices in the ward	1.98	0.112	1.50	Responsible
4	Uncooperative patient	1.65	1.620	1.50	Responsible
5	Inadequate knowledge about PU among nurses	1.47	0.501	1.50	Responsible
6	Nursing leadership	1.05	0.219	1.50	Not responsible
7	Inadequate time	1.71	0.452	1.50	Responsible
8	Lack of guideline on PU prevention	1.89	0.303	1.50	Responsible
9	Lack of job satisfaction in nursing profession	1.99	0.079	1.50	Responsible

SD= Standard deviation; EM = Expected Mean

The Table 3 presented the perceived factor influencing the prevention of PU among nurses. It was unanimously agreed that the mentioned factors contribute to the prevention of PU among nurses except item on "Nursing leadership" that has mean value of 1.05 which was less than expected mean of 1.50.

Test of Hypotheses

Ho 1: There is no significant relationship between the practice of pressure ulcer preventive techniques adopted by nurses and their years of working experience



Table 4: Years of Experience and Practice of prevention of PU

		Practice of pressure ulcer		Total	χ^2	Df	sig	Remark
		Poor practice	Good practice					
Years of working experience	1-5	10	14	24	9.420	5	0.093	Not sig
	6-10	17	29	46				
	11-15	15	12	27				
	16-20	21	19	40				
	21-25	8	6	14				
	26 and above	5	0	5				
Total		76	80	156				

df = degree of freedom; χ^2 = Chi-square; sig = Significance

In Table 4 all the items on practice of prevention of pressure ulcer among EKSUTH nurses were cross tabulated with years of experience. It was revealed that the null hypothesis was not significant ($\chi^2 = 9.420$, df = 5, p= 0.093>0.05), hence the null hypothesis is not rejected. The implication of this result is that there was no significant relationship between years of experience and practice of prevention of pressure ulcer among nurses working in EKSUTH.

Ho 2: There is no significant relationship between the attitude of nurses and their practice on prevention of pressure ulcer

Table 5: Attitude and Practice of Prevention of Pressure Ulcer

		<u>Practice of pressure ulcer</u>		Total				
		Poor practice	Good practice		χ^2	df	sig	Remark
Attitude	Poor	2	3	5	0.158	1	0.691	Not sig
	Good	75	78	153				
Total		77	81	158				

df = degree of freedom; χ^2 = Chi-square; sig = Significance

Table 5 revealed that there is no significant relationship between attitude of nurses and their practice on prevention of pressure ulcer ($\chi^2 = 0.158$, df = 1, p= 0.691>0.05), the null hypothesis was not rejected. It implies that attitude of nurses did not dictate their dispositions to practice of prevention of pressure ulcer.

Discussion

It was revealed that good practice was recorded among EKSUTH nurses. The good practice was displayed among 81 (51.6%) nurses while poor practice was recorded among 77 (48.4%) respondents. This result was in line with study of Bayonet et al., (2019) who concluded that good practice of prevention of pressure ulcer considerably reduce the prevalence of pressure sore among patients, also Ingwu et al., (2019) recorded better practice of pressure ulcer. In contrast, this study deviated from the study of Esan et al. (2018) which



was carried out among nurses in tertiary health facilities in Maiduguri, Nigeria who submitted that nurses have poor practice of prevention of pressure ulcer. It was also revealed that very good attitude was recorded among EKSUTH nurses. The good attitude was displayed among 153 (96.2%) nurses and poor attitude was recorded among 5 (3.8%) respondents. This result was in line with study of Clark et al. (2019) who concluded that 67.3% of nurses have positive attitude towards prevention of pressure ulcer in National Orthopedic Hospital Enugu, Nigeria, in the same vein, positive attitudes were recorded from the studies of Ahn et al., (2016) and Clark et al. (2019) with 62.4% and 82.3% respectively.

The relationship between the year of professional experience and practice of pressure ulcer was not significant. This result contradicted the result of Ebi et al. (2017) that stated that there was significant relationship between nurses' work experience and practice of prevention of pressure. The finding may be related to the educational background of the Nurses. The study found out that there was no significant association between attitude of nurses and their practice in prevention of pressure ulcer. In study carried out in Iran on relationship between practice of prevention of pressure ulcer and attitude on pressure ulcer by nurses, it was shown that there was a significant relationship and positive correlational between practice and attitude, this contradicts the result of this findings (Zahra et al. 2020). Findings from Zahra et al. (2020) quantitative study on the relationship between the practice of pressure ulcer prevention and attitude of nurses in Iran indicated that a significant relationship extends in between nurses attitude and their practice of PU prevention. This finding contradicts the outcome of this study.

Conclusion

In agreement with the findings of this study, it is therefore concluded that good practice and good attitude were obtained among EKSUTH nurses. There was no significant association between year of experience and practice of prevention of pressure ulcer. Similarly, no significant relationship was observed between attitude of EKSUTH nurses and practice of prevention of pressure ulcer.

Recommendations

Based on the findings from this study, the following are recommended:

1. More nurses should be employed to reduce workload and pressure relieving devices should be provided for nurses on the wards.
2. Government at all levels should make the welfare of nurses their priority which will increase job satisfaction and reduce brain drain among nurses.

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Cite this article:

Author(s), OWOLABI Wuraola Foluke, OGUNKORODE Agatha O., OLAREWAJU Ayo Temitayo, OWOLABI Olamiposi Temidayo, OWOLABI Babajide Augustine, FATUKASI Abiodun Omotayo, (2025). "Pressure Ulcer Preventive Practices among Nurses Working in Ekiti State University Teaching Hospital, Ado Ekiti, Nigeria", **Name of the Journal:** International Journal of Medicine, Nursing & Health Sciences, (IJMNHS.COM), P, 27- 38 . **DOI:** www.doi.org/10.5281/zenodo.17945484 , **Issue:** 6, Vol.: 6, Article: 3, **Month:** December, Year: 2025. Retrieved from <https://www.ijmnhs.com/all-issues/>

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