Determinants of Nursing Process Utilization Among Nurses in Two Selected Tertiary Hospitals in Lagos State, Nigeria

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Abstract

The study investigated the determinants of nursing process utilization among nurses in two selected tertiary hospitals in Lagos State, Nigeria. The study adopted descriptive cross-sectional design to identify the determinants of nursing process utilization among nurses in two selected tertiary hospitals in Lagos, Nigeria. The study was carried out in two tertiary hospitals in Lagos namely: National Orthopaedic Hospital Igbobi Lagos (NOHIL) and Lagos State University Teaching Hospital (LASUTH). The research instruments used for this study were both a checklist and a self-structured close-ended questionnaire. Both questionnaire and checklist were developed from reviewed literature to cover the content of the research. The face and content validity of the instruments were determined by experts in Nursing Sciences. The reliability index of 0.849 was obtained to ensure internal consistency of the instrument. Cronbach Alpha was also used to determine the internal consistency of the checklist. The reliability index of 0.653 was obtained to ensure internal consistency of the checklist. The responses obtained were collated and analysed using descriptive statistics and inferential statistics of Analysis of Variance (ANOVA), t-test and Chi-square. All the hypotheses were tested at 0.05 level of significance. The findings of this study revealed that patient related factors were the major barrier affecting nursing process utilization in selected tertiary hospitals closely followed by organisation related factors while nurses related factors was the least barrier affecting nursing

process utilization. In addition, utilization of nursing process differs based on nurses' years of experience and type of tertiary hospital. It was recommended among others nursing administration should put measures in place to ensure that the nurses are well supervised to practice nursing process.

Keywords: Determinants, Nursing Process, Utilization, Nurses,

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Introduction

Nursing process exemplifies evidence-based practice as mentioned by Espana and Monsivais (2006) which epitomizes professional nursing; thus, its application in practice is core to the essence of professional nursing. The effective implementation of nursing process improves outcome of care given, and also stimulate the construction of theoretical and scientific knowledge based on the best clinical practice in order to enhance effective communication among caregivers which in turn facilitates continuity of care (Alfaro-LeFevre, 2010).

To ensure that nursing care is planned and delivered effectively a structured approach called the 'nursing process' is used. Hall originated the term of nursing process in 1955 and Johnson, Orlando and Wiedenbach were among the first to use it to refer to a series of phases describing the practice of nursing. Through the nursing process, the nurse helps the patient meet his or her health care needs. The skills and abilities a nurse must have to use the nursing process can be divided into three categories: cognitive (thinking, reasoning), psychomotor (doing), and affective (feeling, values). The nursing process is a deliberate, problem solving approach and decision-making process that serves as a framework for the delivery of nursing care. The nursing process is a systematic, rational method of planning and providing individualized nursing care and nursing practice through the phases of the nursing process. In other word, nursing is the diagnosis and treatment of human responses to actual or potential health problem. Diagnosis and treatment are achieved through a process called the nursing process that guides nursing practice (Karimi, 2011)

The demand for high quality nursing care is increasing and the nursing process is one of the tools that guarantee quality in patient care. According to Olatubi, Oyediran, Faremi and Salau (2018), effective use of nursing process depends on the nurses' knowledge, familiarity with standardized nursing diagnosis terminology, evidence-based practice and ability to evaluate patient response to intervention. Its practical application entails the process of critical thinking which requires gathering data, analyzing and interpreting data, making judgments, setting goals, establishing priorities, selecting appropriate interventions, implementing these interventions, and evaluating the outcomes to determine if the plan has been effective. A clear understanding of the level of utilization and the associated factors is exigent for any attempt to address quality of care issues in nursing.

Nursing process is a systematic rational method which the nurse utilizes to plan and provide individualized care to clients. Essential elements are necessitated in nursing process and standardized nursing terminologies to enhance the structuring of nursing documentation in daily nursing information management. According to Mangare, Omondi, Ayieko, Wakasiaka, Omoni and Wamalwa (2016), and Toney-Butler and Thayer, (2019), this framework comprises of five distinct steps which emphasize on the essential activities that must be taken to address client's nursing diagnoses and manage any collaborative problems or complications. The five steps include assessment, nursing diagnosis, planning, implementation and evaluation. These steps are aimed at achieving the ultimate goal of nursing where the nurse strives to promote, maintain, rehabilitate or assist clients to achieve a peaceful death and to enable the family or the community to manage their own health care to the best of their ability.

In recent times, while nurses exhibit due nurse-patient relationship, it has been observed that the efficient application of the nursing process in patient care is conspicuously questionable in Nigerian hospital as there are difficulty engaging nurses at all levels to adequately record details required in nursing process for each patient's care. Mwangi,

Meng'anyi and Mbugua (2019) revealed in a study conducted in Kenya that 29% of nurses were able to carry out their procedures and document according to the steps of nursing process while a study on utilization of nursing process conducted by Rivas, Martín-Iglesias, Pacheco, Minguet, López and Lagos (2016) shows that 24.9% of the medical records contained the nursing process form and nurses completed less than 25% of these nursing process charts (records) including nursing assessment, nursing diagnoses, intervention and evaluation. Similarly, Olatubi, Oyediran, Faremi and Salau (2018) confirmed in their study on utilization of nursing process carried out in Ondo State, that 60% of nurses know the number of steps in nursing process, 55.4% opined that the use of nursing process can be cumbersome while only 24.6% admitted to often use nursing process for patient's care.

These may be attributed to factors such as readmission of patients, shortage of manpower, insufficient time, conflicting roles, nurse dissatisfaction, non-availability of nursing process forms, and inadequate cognitive critical thinking abilities to interpret and appreciate nursing process application to their practice. The implementation of nursing process on the wards is documented by students seeking to improve their practical knowledge in preparation for examination(s). In wards where there are no students in training, the nursing process is vaguely documented during routine inspection by regulatory bodies.

To this end, the researcher sought to study determinants of nursing process utilization among nurses in two selected tertiary institutions namely National Orthopaedic Hospital Igbobi Lagos (NOHIL) and Lagos State University Teaching Hospital (LASUTH). Based on the foregoing, the study investigated the determinants of nursing process utilization among nurses in two selected tertiary hospitals in Lagos State, Nigeria. The study specifically:

1. established the determinants of nursing process utilization in patients' care in selected hospitals;
2. ascertained the self-reported barriers that affect nursing process utilization in selected hospitals;
3. examined the difference in the utilization of nursing process based on nurses' years of experience in the selected tertiary hospitals;
4. determined difference in the utilization of nursing process among nurses between the selected tertiary hospitals; and
5. investigated relationship between the determinants of nursing process utilization and the hospital settings.

Research Questions

The following research questions were raised to guide the study:

1. What are determinants of nursing process utilization in patients' care in selected tertiary hospitals in Lagos State?
2. What are the self-reported barriers affecting nursing process utilization in selected tertiary hospitals in Lagos?

Research Hypotheses

The following null hypotheses were generated for this study:

1. There is no significant difference in the utilization of nursing process based on nurses' years of experience in the selected tertiary hospitals.
2. There is no significant difference in the utilization of nursing process among nurses between the selected tertiary hospitals.
3. There is no significant relationship between the determinants of nursing process utilization and the hospital settings.

Methodology

The study adopted descriptive cross-sectional design to identify the determinants of nursing process utilization among nurses in two selected tertiary hospitals in Lagos, Nigeria. The study was carried out in two tertiary hospitals in Lagos namely: National Orthopaedic Hospital Igbobi Lagos (NOHIL) and Lagos State University Teaching Hospital (LASUTH). The study population included all professional nurses working at tertiary hospitals in Lagos State irrespective of rank, gender, specialization and years of service. There were 956 and 373 nurses in LASUTH and NOHIL respectively. 400 nurses were selected from Lagos State University Teaching Hospital while 193 nurses were selected from National Orthopaedic Hospital, Igbobi Lagos for the study. However, 572 respondents' questionnaire were retrieved.

The research instruments used for this study were both a checklist and a self-structured close-ended questionnaire. Both questionnaire and checklist were developed from reviewed literature to cover the content of the research. The face and content validity of the instruments were determined by experts in Nursing Sciences. The instruments were said to have facial relevance and concerned with the subject matter, they claimed to measure. The reliability of the instrument was determined through internal consistency method. The reliability index of 0.849 was obtained to ensure internal consistency of the instrument. Cronbach Alpha was also used to determine the internal consistency of the checklist. The reliability index of 0.653 was obtained to ensure internal consistency of the checklist.

The responses obtained were collated and analysed using descriptive statistics of frequency counts, percentages, mean standard deviation and graphs, while the hypotheses postulated were subjected to inferential statistics of Analysis of Variance (ANOVA), t-test and Chi-square. All the hypotheses were tested at 0.05 level of significance.

Results
Descriptive Analysis
Research Question 1: What are determinants of nursing process utilization in patients' care in selected tertiary hospitals in Lagos State?

Table 1: Frequency Count and Percentage of the determinants of nursing process utilization in patients' care

S/N	Checklist	Yes (%)	Incomplete (%)	No (%)
1.	Is there a nursing process form attached to the patient's file?	306 (100)	0 (0)	0 (0)
2.	Are there assessment data clearly documented in the nursing process form?	38 (12.4)	264 (86.3)	4 (1.3)
3.	Is there a clearly stated nursing diagnosis?	148 (48.4)	134 (43.8)	24 (7.8)
4.	Are there clearly stated nursing diagnoses based on problems identified?	127 (29.4)	89 (29.1)	90 (41.5)
5.	Is the plan of care stated based on priority?	173 (56.5)	47 (15.4)	86 (28.1)
6.	Are the nursing interventions clearly documented based on the plan?	178 (58.2)	75 (24.5)	53 (17.3)
7.	Is there documentation about the evaluation of nursing intervention?	183 (59.8)	83 (27.1)	40 (13.1)
8.	Do the nurses perform and document a re-assessment of the patient's changing nursing needs?	63 (20.6)	49 (16.0)	194 (63.4)

Table 1 revealed the determinants of nursing process utilization in patients' care in selected tertiary hospitals.

Research Question 2: What are the self-reported barriers affecting nursing process utilization in selected tertiary hospitals in Lagos?

In answering this question, data on psychological factors were collected from the responses of the respondents to items under Section B of PFOAQ (item 5 – 16) in the questionnaire. The data were collated and analysed using descriptive statistics such as frequency counts, percentage, mean and standard deviation. In table 5, the mean cut-off mark of 2.50 was derived by finding the average of the scoring system. Mean score of items greater than mean cut-off of 2.50 were accepted while those less than 2.50 were rejected.

Table 2: Mean Scores of barriers affecting nursing process utilization

S/N	ITEMS	Mean	Remark
	ORGANIZATION-RELATED FACTORS		
1.	High patient to nurse ratio	2.33	Disagreed
2.	Absence of in-service training pertinent to nursing process	2.49	Disagreed
3.	Poor or no support from administrators	2.49	Disagreed
4.	Lack of monitoring and evaluation	2.33	Disagreed
5.	Lack of motivation for implementers of nursing process	2.33	Disagreed
6.	Unsatisfactory working environment	3.17	Agreed
7.	Bad management system of the hospital	2.51	Agreed
8.	Insufficient equipment for the implementation of nursing process.	2.64	Agreed
9.	Lack or insufficient supply of nursing process forms	2.64	Agreed
10.	Intensified workload and stress on the ward	2.65	Agreed
11.	Too many paper work	2.50	Agreed
12.	Increase turnover	2.65	Agreed
13.	Monitoring mechanisms not consistent	1.73	Disagreed
14.	Poor nurses salary	2.25	Disagreed
	Average Mean	**2.48**	
	NURSES RELATED FACTORS		
15.	Lack of practice in implementation of nursing process	1.80	Disagreed
16.	Lack of support from colleagues	1.61	Disagreed
17.	Low job satisfaction level	2.89	Agreed
18.	Minimal continuing education on nursing process	3.25	Agreed
19.	Minimal recognition of work done	2.65	Agreed
20	Lack of knowledge about the nursing process	2.37	Disagreed
21	Nursing process is time consuming	2.66	Agreed
	Average Mean	**2.46**	
	PATIENT –RELATED FACTORS		
22.	High patient flow	3.22	Agreed
23.	Critically ill patients taking much of the time	3.25	Agreed
/24	Early patient discharge	1.99	Disagreed
25	Poor patient economic status	1.72	Disagreed
26	Patients' awareness towards nursing process	2.40	Disagreed
27	Uncooperative patients	2.36	Disagreed

		Average Mean	2.49	

Mean Cut-off: 2.50   Percentages in Parenthesis

Table 2 showed the self-reported barriers affecting nursing process utilization in selected tertiary hospitals. Using the criterion mean score of 2.50 as cut-off to determine the affirmative of each items, 13 items were accepted because there mean marks were greater than 2.50 while 14 items were rejected. The respondents indicated that the average mean mark of organisation related factor (ẍ = 2.48), nurses related factor (ẍ = 2.46) and patient related factor (ẍ = 2.49). Figure viii further revealed the barriers affecting nursing process utilization
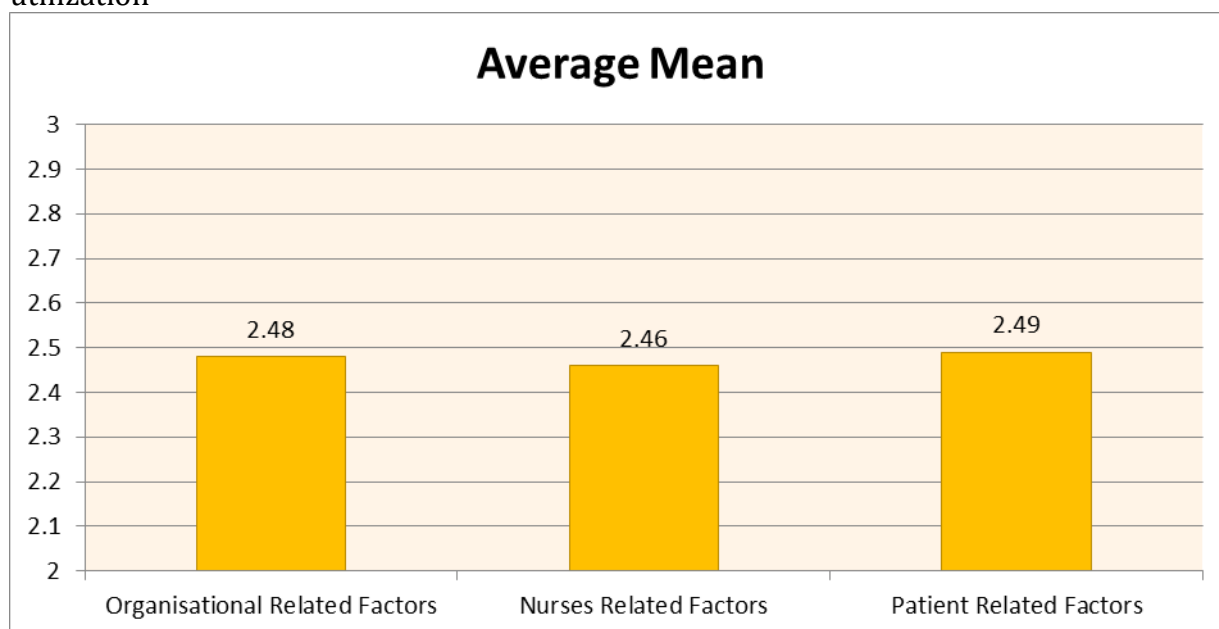

Figure 1: Bar chart showing the barriers affecting nursing process utilization

Testing of Hypotheses

Hypothesis 1: There is no significant difference in the utilization of nursing process based on nurses' years of experience in the selected tertiary hospitals

Table 3: Analysis of Variance for difference in the utilization of nursing process based on nurses' years of experience

Groups	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	915.384	6	152.564	3.359*	.003
Within Groups	25662.427	565	45.420		
Total	**26577.811**	**571**			

*$P < 0.05$

The result presented in Table 4.12 showed that F_{cal} value of 3.359 was significant because the P value (0.003) < 0.05 at 0.05 level of significance. Hence, the null hypothesis was rejected. This implies that there was significant difference in the utilization of nursing process based on nurses' years of experience in the selected tertiary hospitals. In order to investigate the source of the differences observed, Post – hoc analysis (Scheffe) with mean difference was carried out.

Table 4: Scheffe Post – hoc test and mean for observed difference in the utilization of nursing process based on nurses' years of experience

Groups (Years)	Mean	1	2	3	4	5	6	7

		103.68	105.94	103.75	102.13	102.49	104.57	103.90
1 – 5 (1)	103.68	1						
6 – 10 (2)	105.94		1					
11 – 15 (3)	103.75			1				
16 – 20 (4)	102.13		*		1			
21 – 25 (5)	102.49					1		
26 – 30 (6)	104.57						1	
30 and above (7)	103.90							1

* P < 0.05

In Table 4, the only area where significant difference was observed is between nurses who have spent 6 – 10 years in service and those who have spent 16 – 20 years. However, there was no significant difference among other group of nurses based on their year of experience. It could be concluded that nurses who have spent 6 – 10 years had the highest utilization of nursing process closely followed by nurses who had spent 26 – 30 years in service.

Hypothesis 2: There is no significant difference in the utilization of nursing process among nurses between the selected tertiary hospitals.

Table 5: t-test analysis of difference in the utilization of nursing process among nurses between the selected tertiary hospital

Variables	N	Mean	Stan. Dev.	Df	t-cal	Sig.
LASUTH	386	104.80	4.08			
NOHIL	186	100.38	9.78	570	7.615*	0.000

*P<0.05

Table 5 showed that the t-cal (7.615) is significant at 0.05 level of significance because the p-value of 0.000<0.05. The null hypothesis is therefore rejected. This implies that there was significant difference in the utilization of nursing process among nurses between the selected tertiary hospitals. The mean difference of 4.42 was in favour of nurses in LASUTH and this implies that nurses in LASUTH utilises nursing process than those in NOHIL.

Hypothesis 3: There is no significant relationship between the determinants of nursing process utilization and the hospital settings

Table 6: Chi-Square (X²) analysis for determinants of nursing process utilization and the hospital settings

	Is there a nursing process form attached to the patient's file?			X²-Cal	Sig
Research Setting	No	Incomplete	Yes		
LASUTH	0	0	185	-	-
NOHIL	0	0	121		
	Are there assessment data clearly documented in the nursing process form?			X²-Cal	Sig
	No	Incomplete	Yes		
LASUTH	0	152	33	18.10*	0.000
NOHIL	4	112	5		

	Is there a clearly stated nursing diagnosis?			X^2-Cal	Sig
	No	Incomplete	Yes		
LASUTH	8	59	118	45.51*	0.000
NOHIL	16	75	30		
	Are there clearly stated nursing diagnoses based on problems identified?			X^2-Cal	Sig.
	No	Incomplete	Yes		
LASUTH	34	52	99	35.78*	0.000
NOHIL	56	37	28		
	Is the plan of care stated based on priority?			X^2-Cal	Sig.
	No	Incomplete	Yes		
LASUTH	25	38	122	50.95*	0.000
NOHIL	61	9	51		
	Are the nursing interventions clearly documented based on the plan?			X^2-Cal	Sig
	No	Incomplete	Yes		
LASUTH	17	50	118	21.60*	0.000
NOHIL	36	25	60		
	Is there documentation about the evaluation of nursing intervention?			X^2-Cal	Sig.
	No	Incomplete	Yes		
LASUTH	21	31	133	31.03*	0.000
NOHIL	19	52	50		
	Do the nurses perform and document a re-assessment of the patient's changing nursing needs?			X^2-Cal	Sig.
	No	Incomplete	Yes		
LASUTH	136	28	21	27.16*	0.000
NOHIL	58	21	42		

*P<0.005

Table 6 showed that all the X^2-cal value of each of the individual items were significant because the p-value of 0.000<0.05 except for the first item where at least one variable in each 2-way table upon which measures of association are computed is a constant. The null hypothesis is therefore rejected. This implies that there was significant relationship between the determinants of nursing process utilization and the hospital settings.

Discussion

The findings of the study revealed that the highest barrier affecting nursing process utilization in selected tertiary hospitals was patient related factors, closely followed by organisation related factors while nurses related factors was the least barrier affecting nursing process utilization. In support of this finding, Mahmoud and Bayoumy (2014)

concluded that patient related factors are the major barriers against their confidence in ability to apply nursing process. Also, Shewangiza and Mersha (2015) reported that organizational factors such as increased work load and intensified work-load among nurses were critical factors that affect nursing process implementation.

The findings of the study also revealed that there was significant difference in the utilization of nursing process based on nurses' years of experience in the selected tertiary hospitals. This implies that nurses' years of experience influenced utilization of nursing process. Significant difference existed between nurses who have spent 6 – 10 years in service and those who have spent 16 – 20 years. It was further revealed that nurses who have spent 6 – 10 years had the highest utilization of nursing process closely followed by nurses who had spent 26 – 30 years in service.

The findings of the study further revealed that there was significant difference in the utilization of nursing process among nurses between the selected tertiary hospitals. The mean difference of 4.42 was in favour of nurses in LASUTH and this implies that nurses in LASUTH utilises nursing process than those in NOHIL. In addition, it was revealed that there was significant relationship between the determinants of nursing process utilization and the hospital settings.

Summary of Major Findings

The following are the major findings of the study:

1. The highest barrier affecting nursing process utilization in selected tertiary hospitals was patient related factors, closely followed by organisation related factors while nurses related factors was the least barrier affecting nursing process utilization
2. There was significant difference in the utilization of nursing process based on nurses' years of experience in the selected tertiary hospitals
3. There was significant difference in the utilization of nursing process among nurses between the selected tertiary hospitals
4. There was significant relationship between the determinants of nursing process utilization and the hospital settings.

Conclusion

Sequel to the findings of this study, it was concluded that patient related factors were the major barrier affecting nursing process utilization in selected tertiary hospitals closely followed by organisation related factors while nurses related factors was the least barrier affecting nursing process utilization. In addition, utilization of nursing process differs based on nurses' years of experience and type of tertiary hospital.

Recommendations

Based on the findings of this study, the following recommendations were made.

1. Nursing administration should put measures in place to ensure that the nurses are well supervised to practice nursing process.
2. There should be periodic workshops and seminars on the nursing process for nurses to equip them with the needed skills and confidence to value and practice of nursing process.
3. There should be regular in-service training on the nursing process for nurse clinicians, to continually update their knowledge and skills on the nursing process so that it could be effectively implemented on the ward.

10
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