Assessment of Level of the Knowledge, Utilization and Barriers of Nursing Process as a Tool for Effective Nursing Care Among Nurses in University of Maiduguri Teaching Hospital, Maiduguri, Nigeria

A. Inuwa, M.Ed./M.Sc.[1*]; H. Habu, MHPM[1]; O.C. Emmanuel, M.Sc.[2]; B. Maigari, M.Sc.[1]; H. Dathini, M.Sc.[1]; A. Haruna, M.Ed. (in view)[1]; and N. Lola, M.Sc.[1]

[1]Department of Nursing Science, University of Maiduguri, Borno State, Nigeria.
[2]School of Nursing, Mkar Gboko, Nigeria.

E-mail: inuwaahmadu@gmail.com

ABSTRACT

The nursing process is a systematic and scientific approach to patient-centered care used in clinical practice worldwide to deliver quality-individualized care to patients. The study was conceived to assess the level of the knowledge, utilization of nursing process, and barriers of utilizing nursing process as a tool for effective nursing care among nurses in University of Maiduguri Teaching Hospital, Maiduguri, Nigeria.

Despite the benefits derivable from the application of the nursing process, trained nurses have not fully implemented it in their various clinical settings owing to several challenges. Data for this study was gathered using a structured questionnaire. The questionnaire was administered to 207 nurses, out which 189 questionnaires were duly filled and returned giving a response rate of 91.3%. The respondents were selected through convenient sampling technique of nurses working at that particular time.

The demographic data of the respondents and research questions were analyzed using descriptive statistics (frequency and percentage) while inferential statistics (correlation) was used to test the hypotheses. The results of this study revealed a significant relationship between knowledge and utilization of nursing processes at the University of Maiduguri Teaching Hospital. The Study recommends that the Nursing and Midwifery Council of Nigeria (N&MCN) and their representatives in the various states should organize regular seminars, workshops, and symposia focused on the practical implementation of the nursing processes in Nigeria.

Communiqués generated from such educational formations should be fully implemented.

(Keywords: nursing process, level of knowledge, utilization, barriers, nursing education)

INTRODUCTION

The introduction of the nursing process as a systematic and scientific approach to patient-centered care started in the early 1960s in the developed countries. It is a tool for providing effective nursing care to individuals, families and communities. It is used in clinical practice worldwide to deliver quality-individualized care to patients (Manal and Hala 2014). It has become the basis of the contemporary practice of a core component of nursing education as well as a point of reference in providing nursing care in many parts of the world (Barak, Girmay, Kidanu, Gerensea, Gezehgne, and Teklay, 2017).

Nursing is directed towards achieving evidence-based care by providing comfort, care, and assurance to the patients which ultimately gives a nurse sense of accountability and responsibility in providing care to the client (Semachew, 2017). Anecdotal evidence in most hospitals indicates its use is lagging behind despite all the effort made by various nursing professional regulatory bodies to implement its use. This is further affirmed by Mahmoud and Bayoumy (2014) who reported that implementation of the nursing process in most hospitals especially in low and middle-income countries remains a challenge, despite efforts made to promote its utilization in the patient care.

Poor knowledge of nursing processes has been identified as a major a gap among nurses which is one of the barriers to nursing process implementation (Fisseha, Fessehaye, Fikadu, Semarya, and Alemseged, 2014). In some instances, the knowledge of nursing processes may be good but certain factors limit the ability of nurses to implement it in their daily practice. These factors include; lack of time, high number of patients, manpower, and material resources needed for efficient utilization of nursing process.

The use of nursing processes as a tool for patient care was introduced in University of Maiduguri Teaching Hospital (UMTH) in 2004. Since then, it was partially utilized in the nursing care of patient due to lack of human and material resources, in particular, the knowledge of the nursing process itself.

This study, therefore, is aimed at assessing the level of utilization and possible barriers to nursing process approach to nursing care in the University of Maiduguri Teaching Hospital (UMTH)

Statement of Problem

The nursing process is considered globally as a problem-solving technique, which is scientifically based and centered towards the patient's well-being. It is also seen as a sum of activities performed to attain and maintain a high level of wellness of a patient. The essence of the nursing process for client care lies on the great benefits to the client, nurses and the nursing profession. However, in UMTH it is still uncertain how far nurses have gone towards effective utilization of the nursing process in their practice.

The proper implementation of a nursing process in any hospital setting is of crucial importance in client care. In order to achieve the quality of health care service, quality of nursing care is the key element and to fill this demand application of the nursing process has a significant role. However, in practice, application of the nursing process is not well developed (Hagos, Alemseged, Balcha, Berhe, and Aregay, 2014).

During the course of the researchers' clinical experience supervision, the researchers observed that nursing process understanding, and implementation were inadequate to meet the patient's goal of care. This prompted the researchers to study the level of knowledge, utilization and barriers to nursing process as a tool for effective nursing care among nurses in UMTH.

Objectives of the Study

The objectives of the study were to:

i. Determine the nurses' level knowledge on nursing process approach in UMTH.

ii. Determine the level of nursing process utilization for patient care in UMTH.

iii. Identify barriers against utilization of nursing process for patient care in UMTH.

Research Questions

i. How knowledgeable are nurses in UMTH about nursing process?

ii. What is the level of nursing process utilization for patients care in UMTH?

iii. What are the factors affecting utilization of nursing process for patient care in UMTH?

Hypotheses

H01.there is no significant relationship between knowledge and utilization of nursing process

H02.there is no significant relationship between qualification and utilization of nursing process

H03.there is no significant relationship between seniority and utilization of nursing process

MATERIALS AND METHODS

Research Design

The research design for this study was a cross-sectional descriptive research design. It has the ability to provide accurate information on populations, using a quite good sample at a single point in time. In addition, a large amount of data can be obtained quickly at a minimal cost (Burns & Grooves, 2011).

Study Area

The study was conducted at the University of Maiduguri Teaching Hospital (UMTH). The hospital is located along Bama road, Maiduguri, Borno State, Nigeria. The hospital is equipped with both human and material resources to handle referral cases, training of students in different health specialties and support health-related research in the North East region of Nigeria. It has 530-bed capacities with various wards and clinics which includes; theatre, accident and emergency, Intensive Care Unit (ICU), Central Sterilizing Supply Department (CSSD), etc. The hospital equally has about 430 registered nurses working in different wards and units of the hospital.

Target Population

The target population of the study were all the registered nurses working at UMTH. whose staff strength is about 430. The number includes male and female from the seven (7) units of the hospital in which the use of the nursing process is applicable in the patient care.

Sample and Sampling Technique

Taro Yamane formula was used to determine the sample size for the study, based on the computation a total of 207 was arrived at as the sample for the study. Convenient sampling technique was used to select 207 respondents from the target population of 430 nurses.

Instrument for Data Collection

Questionnaire was used as the instrument for data collection. It has Four (4) sections.

Section A: sought for demographic data from respondents.

Section B: Level of knowledge of the respondents on nursing process.

Section C: level of nursing process utilization for patient care

Section D: barriers against utilization of nursing process for patient care

Method of Data Analysis

Statistical package for social science version 22 was the tool used for data analysis. Descriptive (frequency and percentages) and inferential statistics (correlation) were used for data analysis and data was presented in tables.

Ethical Considerations

Permission to conduct the research was obtained from the research and ethics committee of the UMTH. Oral informed consent was also obtained from the respondents prior to data collection. The research participant and the setting were assured of privacy and confidentiality.

RESULTS

Two hundred and twenty-seven (207) copies of the questionnaire were administered but only one hundred and eighty-nine (189) copies were retrieved, making 91.3 % return rate and attrition rate of 8.7. So the data presentation and analysis was based on 189 response.

The results in Table 1 below showed Majority of the respondents 106 (56.1%) are females while the male is 83 (43. 9%). On age distribution of the respondents, 57 (30.2%) representing 30-39 years, 46 (24.3%) for 20-29 years, 40-49 as well as 50 years is 22.7% each regarding the years of service; 6-10 years were the majority with 62 (32.8%), 16 years and above 45 (24.8%), 11-15 years 43 (22.8%) and 0-5 years 39 (20.6%).

Of the 189 respondents, 140 (74.1%) are Muslims while 49 (25.9%) are Christians. Regarding seniority of the respondents, 46 (24.2%) are PNOs, 43 (22.8%) SNOs, 37 (19.6%) NOs, 23 (12.1%) SNIIs, 14 (7.4%) SNI while ACNOs and CNOs are 12 and 12 respectively, representing 6.3% each. The respondent's level of qualification also shows that RN + Specialty are the majority with 69 (36.5%), followed by RN only 62 (32.8%), 36 (19%) are RN + BNSc. while RN + BNSc. + Specialty are 22 (11.6%).

Table 1: Socio-Demographic Information of the Respondents.

Variable	Frequency	Percentage
Respondents Gender		
Male	83	43.9%
Female	106	56.1%
Total	**189**	**100%**
Age		
20-29 years	46	24.3%
30-39	57	30.2%
40-49	43	22.8%
50 and above	41	22.7%
Total	**189**	**100%**
Years of Service		
0-5 years	39	20.6%
6-10 years	62	32.8%
11-15 years	43	22.8%
16 years and above	45	24.8%
Total	**189**	**100%**
Religion		
Islam	140	74.1%
Christian	49	25.9%
Total	**189**	**100%**
Seniority		
SNII	23	12.1%
SNI	14	7.4%
NO	37	19.6%
SNO	43	22.8%
PNO	46	24.2%
ACNO	12	6.3%
CNO	12	6.3%
Total	**189**	**100%**
Qualifications		
RN ONLY	62	32.8%
RN + BNSc ONLY	36	19.0%
RN + SPECIALITY	69	36.5%
RN + BNSc + SPECIALITY	22	11.6%
Total	**189**	**100%**

Source: Field survey: 2017

The mean percentage of the correctly answered questions by the respondents as computed from Table 2 above was 80.8% and that of the incorrectly answered questions was identified to be 19.2%. Comparing the percentage with McDonald's standard of learning outcome measured criteria;

Level of Knowledge - Composite Percent /practice of Scores

Very low	....	<60%
Low	....	60%-69.99%
Moderate	....	70%-79.99%
High	....	80%-89.99%
Very high	....	90%-100%

80.8% showed a high knowledge of Nursing Process.

Table 2: Respondent Knowledge on Nursing Process.

	VARIABLES	OPTIONS	Frequency	Percentage
1.	What do you understand by nursing process	Conventional way to solve problem Non-systematic way of nursing care Systematic way of nursing care Fundamental nursing care	24 17 146 00	12.7% 9.0% 78.3% 0.0%
Total			**189**	**100%**
2.	How many steps do we have in nursing process	Seven Six Five Four Three	00 13 147 32 00	0.0% 6.9% 77.8% 16.9% 0.0%
Total			**189**	**100%**
3.	Nursing process is normally applied to patients/clients....	Individually In Groups In hospital only	157 00 32	83.1% 0.0% 16.9%
Total			**189**	**100%**
4.	Senior staff nurses are the ones responsible for nursing process only	Yes No	28 161	14.8% 85.2%
Total			**189**	**100%**

Source: Field survey: 2017

Table 3: The Extent of Utilization of Nursing Process in UMTH.

Item	S	F	P	N	Total
How do you rate the level utilization of nursing process implemented in your ward	33 (17.5%)	96 (50.8%)	49 (25.9%)	11 (5.8%)	189 100%

Source: Field survey: 2017
Key: S = Satisfactory, F = Fair, P = Poor, N = Not at all

Table 4: Barriers to the Utilization of Nursing Process in UMTH.

ITEM	LS	IS	SA	IK	NP	NI	Total
What factors make it difficult to implement nursing process in your ward?	56 (29.6%)	83 (43.9%)	18 (9.5%)	0 (0.0%)	10 (5.3%)	22 (11.6%)	189 100

Source: Field survey: 2017
Key: LS = Lack of support from the Management, IS = Inadequate staff, SA = Staff attitude towards nursing process, IK = Inadequate knowledge, NP = Nursing process is difficult to implement, NI = No enough materials for implementation

Hypothesis (H_{01}): There is no significant relationship between knowledge and utilization of nursing process in University of Maiduguri Teaching Hospital.

Table 5: Relationship between Knowledge and Utilization.

		Knowledge	Utilization of Nursing Process
Knowledge	Pearson Correlation	1	0.721**
	Sig. (2-tailed)		0.000
	N	189	189
Utilization of Nursing Process	Pearson Correlation	0.721**	1
	Sig. (2-tailed)	0.000	
	N	189	189
**. Correlation is significant at the 0.05 level (2-tailed).			

Source: Filed Survey, 2017

Table 6: Relationship between Qualification and Utilization.

		Qualification	Utilization of Nursing Process
Qualification	Pearson Correlation	1	0.635**
	Sig. (2-tailed)		0.019
	N	189	189
Utilization of Nursing Process	Pearson Correlation	0.635**	1
	Sig. (2-tailed)	0.019	
	N	189	189
**. Correlation is significant at the 0.05 level (2-tailed).			

Source: Filed Survey, 2017

Table 5 showed a significant relationship between knowledge and utilization of nursing process in University of Maiduguri Teaching Hospital because the p-value (0.000) is less than the alpha (0.05) value (p<α) the null hypothesis which states that there is no significant relationship between knowledge and utilization of the nursing process in University of Maiduguri Teaching Hospital is rejected. Hence, there was a significant relationship between knowledge and utilization of the nursing process in University of Maiduguri Teaching Hospital.

Hypothesis (H$_{02}$): There is no significant relationship between qualification and utilization of nursing process at the University of Maiduguri Teaching Hospital.

Table 6 shows a significant relationship between qualification and utilization of the nursing process in the University of Maiduguri Teaching Hospital. Since the p-value (0.019) is less than the alpha (0.05) value (p<α) the null hypothesis which states that there is no significant relationship between qualification and utilization of nursing process in University of Maiduguri Teaching Hospital is rejected at 0.05 level of significance. Hence, there was a significant relationship between qualification and utilization of the nursing process in the University of Maiduguri Teaching Hospital.

Hypothesis (H$_{03}$): There is no significant relationship between seniority and utilization of nursing process at the University of Maiduguri Teaching Hospital.

Table 7: Relationship between Seniority and Utilization.

		Seniority	Utilization of Nursing Process
Seniority	Pearson Correlation	1	0.125**
	Sig. (2-tailed)		0.002
	N	189	189
Utilization of Nursing Process	Pearson Correlation	0.125**	1
	Sig. (2-tailed)	0.002	
	N	189	189
**. Correlation is significant at the 0.05 level (2-tailed).			

Source: Filed Survey, 2017

Table 7 showed a significant relationship between seniority and utilization of nursing process in University of Maiduguri Teaching Hospital because the p-value (0.002) is less than the alpha (0.05) value (p<α) the null hypothesis which states that there is no significant relationship between seniority and utilization of nursing process in University of Maiduguri Teaching Hospital is rejected at 0.05 level of significance. Hence, there was a significant relationship between seniority and utilization of the nursing process in University of Maiduguri Teaching Hospital.

DISCUSSION OF MAJOR FINDINGS

The first finding revealed high knowledge of nursing process among nurses in UMTH. This implies that training nurses on the nursing process in UMTH is adequate. In agreement with this finding is a study by Manal and Hala (2014) who conducted a research on the barriers and facilitators for execution of design nursing process from nurses' perspective with exploratory descriptive research design utilized in the study.

The results showed majority of nurses (94.6%) indicated good knowledge of the nursing process. However, in contrast with this finding is a study by Fisseha et al. (2014) who conducted a study titled "Application of Nursing Process and Its Affecting Factors among Nurses Working in Mekelle Zone Hospitals, Northern Ethiopia" findings indicated majority (90%) of the respondents had poor knowledge of the nursing process.

The second finding revealed a moderate level of nursing process utilization for patient's care in

UMTH. This implies that the utilization of the nursing process in the care patient is still poor.

In line with this finding, is a study by Afoi et al. (2012) who carried out a study in Kaduna State, Nigeria. The findings revealed that the use of the nursing process started and stopped (14.1%) and 25.8% indicated that it is not used in the patient's care.

The third finding revealed a lack of support from the management, inadequate staff and insufficient materials for implementation were the factors identified by respondents as barriers for the utilization of the nursing process in patient care in UMTH. Supporting this finding is a study by Joel et al., (2013) which evaluated the utilization of the nursing process and patient outcome at Neuro-Psychiatric Hospital Rumuigbo, Port Harcourt, Nigeria. Findings from the study showed several challenges which included inadequate practical knowledge, inadequate staff, work overload, management's inability to provide the needed materials among others.

In another study Abdelkader and Othman (2017), identified factors that affect implementation of the nursing process to include; lack of sufficient enthusiasm in using the nursing process, a shortage of nursing staff and a lack of resources as a barrier was also supported by Mamseri (2012),

Mahmoud and Bayoumy (2014) in their study reported that many nurses complained of a lack of sufficient resources and time, as the most

important barrier to the implementation of the nursing process.

Implication of the Study to Nursing Care

Effective utilization of the nursing process brings about professionalism and accelerated patient outcome. It makes the nurse skillful in care and lubricates the wheel of nurse-patient relationship that is goal-orientated. It is beneficial to the patient, profession, the hospital management and government.

Limitation of the Study

The study like any other research work is not without limitation. The absence of available data on the utilization of the nursing process among nurses in University of Maiduguri Teaching Hospital Maiduguri, Borno State, made it compulsory for the use of primary data. It is important to note that the perceptions of the respondents and their responses may be subjective as some of them showed less concerned about the nursing process. By virtue of the busy nature of the nurses, there was considerable reluctance on their parts to volunteer information. These limitations however neither affected the quality of data collected nor the conclusions drawn from it.

Summary of Major Findings

1. The knowledge of nursing process was high among nurses in UMTH.

2. There was a moderate level of nursing process utilization for patients care in UMTH.

3. Lack of support from the Management, inadequate staff and insufficient materials for implementation were identified as the factors affecting utilization of nursing process in patient care in UMTH.

4. There was a significant relationship between knowledge and utilization of nursing process in University of Maiduguri Teaching Hospital.

5. There was a significant relationship between qualification and utilization of nursing process in University of Maiduguri Teaching Hospital.

6. There was a significant relationship between seniority and utilization of nursing process in University of Maiduguri Teaching Hospital.

CONCLUSION

The nursing process has emerged as the cornerstone of clinical judgment in nursing practice. It has standardized the language of nursing and helped in improving the response of patients to care through improved nurse-patient relationship, maximum utilization of available resources toward patient care, good communication among practicing nurses. Despite the benefits derivable from the application of the nursing process, trained nurses have not fully implemented it in their various clinical settings owing to several challenges.

Findings from this study revealed that a greater percentage of trained nurses have good theoretical knowledge of the nursing process but have failed to or are not willing to translate this knowledge into action. The major barriers to the implementation of the nursing process identified by the respondents were inadequate staff and insufficient materials for proper implementation of the nursing process.

RECOMMENDATIONS

In the light of the above findings, the following recommendations are made:

1. The Nursing and Midwifery Council of Nigeria (N&MCN) and her representatives at the various states should organize regular seminars, workshops and symposia focused on the practical implementation of the nursing process in Nigeria. Communiqués generated from such educational exercise should be fully implemented.

2. Nurses in UMTH should be proactive in practice and be interested in improving care by utilizing the Nursing Process.

3. More nurses should be employed to reduce the workload, using the World Health Organization/ International Council of Nurses Nurse-patient ratio. This will boost the staff strength thus creating effectiveness and efficacy in practice. Adequate material resources for effective implementation should

be budgeted for and provided as a recurrent institutional expenditure.

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ABOUT THE AUTHORS

Mr. Inuwa Ahmadu, is a Lecturer at the Department of Nursing Science University of Maiduguri, Nigeria. He is a Registered Nurse and Fellow West African College of Nursing. He holds a Master of Education and M.Sc. Public health degree. His research interests are on instructional technology; measurement and evaluation; and community and public health.

Mr. Habu Haruna, is a Lecturer at the Department of Nursing Science, University of Maiduguri, Nigeria. He holds a Masters degree in health planning and management. His research interests are in mental and emotional health, health services management and students' evaluation.

O.C. Emmanuel, is a Lecturer at the School of Nursing Mkar Gboko, Nigeria. Nigeria. He holds a Masters degree in Nursing. His research interests are in Nursing and psychosocial issues.

Maigari Babaji, is a Lecturer at the Department of Nursing Science, University of Maiduguri, Nigeria. He holds a Master's degree in Mental and Psychiatric Nursing. His research interests are in mental health and students' assessment and evaluation.

Mr. Haruna Adamu, is a Lecturer at the Department of Nursing Science University of Maiduguri, Nigeria. He is a Registered Nurse. He holds Bachelor of Nursing Science a Master of Public Health Education (in view). His research interests are in public health and maternal and newborn child health.

Dathini Hamina, is a Lecturer at the Department of Nursing Science, University of Maiduguri, Nigeria. He holds a Masters degree in Advance Nursing. His research interests are in Maternal and child health.

Lola Nelson, is a Lecturer at the Department of Nursing Science, University of Maiduguri, Nigeria. He holds a Masters degree in Community health Nursing. His research

interests are in community/public health nursing issues.

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