Original Research Article

Factors that Influence the Implementation of Nursing Process among Nurses in NnamdiAzikiwe Teaching Hospital Anambra State.

ABSTRACT

Aims: The emphasis of this study was to investigate the factors that may influence the implementation and utilization of nursing process among nurses.
Study design:A descriptive survey method was employed in this study.
Place and Duration of Study: The study was carried out at NnamdiAzikiwe University Teaching Hospital (NAUTH), Nnewi, for a period of one month.
Methodology: The population of the study consists of nurses working in various wards and special units in NAUTH. A pre-tested, self-report questionnaire was used to collect demographic information, and statement regarding factors that might have influenced the implementation of nursing process of which respondents answered.The data collected was analyzed using percentage and presented in tables. The hypothesis was tested using Chi-square analysis at significant level of 0.05. **Results:**Out of the workgroup of 143 nurses majority (76.2%) have not fully implemented nursing process in daily care of clients. Only 23.8% have implemented nursing process fully. 65% of the nurses identified lack of cooperation among nurses as the major impediment to implementation of nursing process, majority of respondents (74.1%) subsequently suggested organization of regular update workshops as a way to impacting and promoting the required knowledge of practical use of nursing process in order to avert the identified problem.
Conclusion: The implementation of nursing process in NAUTH has not been fully established in the daily care of clients. There is need for nurse leaders to make concerted efforts to supervise subordinates towards the implementation of nursing process.

Keywords: Nursing, Evaluation, Questionnaire, Implement.

1. INTRODUCTION

Nursing is a profession that is concerned with an individual's physical, social and psychological reactions to diseases and takes into account the patient as a member of the society with his own stresses that may affect his reaction to disease. Nursing practice require that the nurse practitioner render deliberately planned actions in response to client's need. In those times nurses focused on treating specific disease and implementing physician's instructions, little planning was done to individualize nursing care for a specific client [1]. Nursing, thus, became concerned with client total need and made concerted effort to develop more systematic and rational pattern for determining and meeting the needs of her patients.

Nursing process is a systematic and goal directed set of activities which are interrelated and dynamically used by the nurse to determine, plan and implement individualized nursing care which is aimed at helping the patient to achieve integration of his whole being or optimal level of wellness [2]. It allows the nurse to individualize care and respond to client needs in timely and reasonable manner. The purpose of the nursing process is to identify a client's health status and actual or potential health care problems or needs and to deliver specific nursing interventions to meet those needs [3].

Although the steps of the nursing process have been stated in various ways by different writers, the commoncomponents cited are assessment, diagnosis, planning, implementing and evaluation. In a pretest – posttest experiment design study on the effect of nursing care standards on nurses performance in caring patients with cardiac arrhythmias conducted by Ibrahim et al (4), in Benha University hospital, Egypt revealed that the majority of nurses had unsatisfactory knowledge and practice before implementation of the standards and after applying the standards, there was improvement. Results showed that the written care standards proved useful in enhancing knowledge and practice at such should be available in all coronary care units and in other units in the hospital.

Evidence however abounds to show that many nurses particularly in developing countries do not utilize this tool of care. In a descriptive design study conducted by Agunwah (5) on the evaluation of implementation of nursing process among nurses in Enugu state Nigeria revealed that although the use of nursing process has been attempted, it has not been fully implemented by nurses. Findings revealed that the major constraints to the implementation of nursing process have to do with knowledge deficit amongst nurses about practical use of nursing process for client care. Another identified constraint focused on the need for Nursing and Midwifery council to put in place penalty or sanction on defaulting institution and use it as part of accreditation or reaccreditation of health care institution for nursing practice and education hindrances from both nurses, nursing leaders and policy makers. Furthermore, the input of policy makers to provide necessary materials would motivate nurses to effective use of the approach.

It has therefore become pertinent to determine this care received by clients and this will be revealed by evaluating the implementation of this valuable tool. Thus, the emphasis of this study was to determine how well nurses have achieved the utilization of the process identifying also the factors that contribute to the nurses' success or failure in utilizing the process.The findings will help to suggest possible measures that can be taken to alleviate the factors militating against its use or encourage its use. It will help the nurse to view

nursing process as a valuable tool that can be used with ease in any nursing situation. The effective implementation of nursing process will give the nurse the opportunity to grow professionally in his/her practice.

2. METHODS

2.1 Research Design

The research design that was used for the study was descriptive survey method. The design described how well nurses have implemented Nursing process, factors contributing to their implementation or non-implementation as well as measures to alleviate the factors militating against its use or encourage its use.

2.1.1 Area of study

The area of the study was the Children emergency room (CHER), Accident and Emergency (A&E) unit, Female surgical ward, Male surgical ward, Pediatrics ward, Special care baby unit, Lying in ward, Labor ward, intensive care unit, Female medical and Male medical wards of NnamdiAzikiwe University Teaching Hospital, Nnewi.

2.1.1.1 ***Population of the study***

The population of the study consists of nurses working in various wards and special units in NAUTH. The target population is 255 which was distributed according to their units as shown in table 1.

Table 1. Distribution of Nurses in various wards in NAUTH

UNITS	NUMBER
CHER	18
A & E	41
FSW	21
MSW	23
PAED	20
SCBU	25
LYING IN WARD	27
FMW	21
MMW	23
ICU	18
Labour	18
Total	255

*2.1.1.2***Sample and Sampling Technique**

The sampling method that was used was stratified random sampling. Nurses in NAUTH were stratified in units and samples were selected from each strata. The Yaro Yamane formula was used to determine the size by mere approximation; and it is given as follows:

$n = N/1+N (e)^2$

Where: N= Finite population n= Sample size, e= Level of significance (Limit of tolerable errors) = 0.05, 1=Constant.

$n= \quad 255/1+255(0.05)^2 = \quad 255/1.638 = 255$

To get the sample size from each strata, the following formula was used:

$$\frac{\text{Population of nurses (per unit) X Sample size}}{\text{Target population}}$$

CHER= 11, A & E = 25, FSW = 12, MSW = 14, PAED = 12, SCBU= 15, Lying in ward = 16, FMW = 12, MMW = 14, ICU = 11, Labor = 11. Total = 153 **(see Appendix 2)**

2.2Instrument for Data Collection

The instrument for data collection was a self-designed questionnaire. The questionnaire had four sections "A", "B", "C" and D". Section A collected demographic information of the subjects while section "B", "C" and "D" collected information on the variables in the objectives of the study. There were sixteen questions contained in the whole sections of the questionnaire. The questions consist of statement regarding likely factors that might have influenced the implementation of nursing process of which respondents answered "strongly agree", "agree", "strongly disagree" and "disagree". Respondents answered "yes" or "no" to indicate how far they have implemented nursing process as well as ticked close ended questions regarding strategies to eliminate factors militating against the use of nursing process or encourage its use.

2.3Validation of the Instrument

The questionnaire was validated for face and content validity by expertise in the field who went through it and made corrections and recommendations. The researchers effected the corrections based on the recommendations.

2.4 Reliability of the Instrument

The instrument's reliability was ascertained by pilots study using twelve nurses from Comprehensive Health Centre Ukpo, an annex of NnamdiAzikiwe University Teaching Hospital who were not included in the study. Data generated from the pilot study was analyzed using Pearson-product moment correlation coefficient by Raw score method to get the reliability coefficient of the half tests and Spearman-Brown prophecy to obtain reliability of the whole tests which gave 0.97(see Appendix 1). With this, the instrument was considered reliable.

2.5 Data Analysis

The data collected was analyzed using percentage and presented in tables. The hypothesis was tested using Chi-square analysis at significant level of 0.05. Chi-square was used based on the fact that this research is a non-parametric type and involved the comparison of observed and theoretical frequencies (based on the hypothesis).

3. RESULTS

A total of one hundred and fifty-three questionnaires were distributed to NAUTH nurses and one hundred and forty three were collected (93.5%). The statistical methods were presented in percentages. From the data analyzed in table 2, the age distribution of the respondents were 21-30 years (39. 2%), 31-40 years (33.6%), 41-50 years (23.8%) and 51 and above (3.5%).

Table 2. Age distribution of the respondents

Age in years	Frequency	Percentage	Cumulative percent
21-30	56	39.2	39.2
31-40	48	33.6	72.7
41-50	34	23.8	96.5
51 and above	5	3.5	100
Total	143	100	

From the data analyzed in tables 3, majority of the respondents (51.1%) had RM as their highest qualification, 2.1% had RN, 23.8% had post basic school certificate, 20.9% had BNSC and 2.1% had masters as their highest qualification.

Table 3. Professional Qualification

Qualification	Frequency	Percentage	Cumulative percent
RN	3	2.1	2.1
RM	73	51.1	53.2
Post basic school certificate	34	23.8	76.9
Bsc (Nursing)	30	20.9	167.8
Masters	3	2.1	169.9
Total	143	100	

From the data presented in table 4, 30.1% had years of experience to be below 5 years, 36.4% had 5-10 years of experience, 27.4% had 11-20 years of experience while 6.3% had 21 and above years of experience.

Table 4. Years of experience

Years	Frequency	Percentage	Cumulative percent
Below 5	43	30.1	30.1
5-10	52	36.4	66.5
11-20	39	27.3	93.7
21 and above	9	6.3	100.0
Total	143	100%	

From table 5, all the respondents (100%) indicated to have heard about nursing process and all indicated to have attempted the use of nursing process. The implication is that nurses have the basic knowledge of the practical use of nursing process.

Table 5. Respondents' knowledge of practical use of nursing process

	Response	Frequency	Percentage
Have you heard of nursing process?	Yes	143	100
	No	0	0
	Total	143	0
Attempted the use of nursing process?	Yes	143	100
	No	0	0
	Total	143	0

From table 6, majority of respondents (76.2%) indicated that they have not fully implemented nursing process in the care of clients and only a minority (23.8%) indicated to have fully implemented the nursing process.

Table 6: Extent of implementation of nursing process

Response	Frequency	Percentage	Cumulative percent
Fully implemented	34	23.8	23.8
Not fully implemented	109	76.2	100.0
Not implemented at all	0	0	0
Total	143	100	

In table 7, 62.2% of respondents always implement nursing process, 34.3% implement it sometimes and 3.5% seldom implement the nursing process.

Table 7. Frequency of implementation of nursing process

Response	Frequency	Percentage	Cumulative percent
Always	89	62.2	62.2
Sometimes	49	34.3	96.5
Seldom	5	3.5	100.0
Never	0	0	100.0
Total	**143**	**100%**	

Among nurses who have fully implemented nursing process in table 8, 44.1% fully implement it always, 50% fully implement it sometimes and 5.9% seldom implement nursing process fully and whereas, 66.1% of the nurses have not fully implemented nursing process at all times of implementation, 30.3% of respondents indicated to have sometimes implemented nursing process though not fully, 3.7% of respondents who have not fully implemented nursing process, seldom attempt using it.

Table 8.Relation of extent to frequency of implementation

	Response	Frequency	Percentage	Cumulative %
Fully implemented	Always	15	44.1	44.1
	Sometimes	17	50.0	94.1
	Seldom	2	5.9	100.0
	Total	34	100%	
Not fully implemented	Always	72	66.1	66.1
	Sometimes	33	30.3	96.3
	Seldom	4	3.7	100.0
	Total	109	100	

From table 9 above, 34.9% of respondents strongly disagree that time influence the implementation of Nursing process, 32.9% disagree, 26.6% agree whereas 5.6% of respondents strongly agree that time influence the implementation of Nursing process.

Table 9. Respondents' opinion on influence of time on implementation of nursing process in client care

Opinion	Frequency	Percentage	Cumulative percent
Strongly agree	8	5.6	5.6
Agree	38	26.6	32.2
Disagree	47	32.9	65.0
Strongly disagree	50	34.9	100
Total	143	100%	

From table 10, 30.8% of respondents strongly disagree that inadequate materials influence the implementation of nursing process, 29.4% disagreed, 28.7% agreed and 11.2% of respondents strongly agreed that inadequate materials influence the implementation of nursing process. Also, 32.9% of respondents strongly disagreed that no penalty for defaulting institution influence the implementation of nursing process.

Table 10. Respondents' opinion on influence of institution on implementation of nursing process in client care

Institutional factors	SA	A	D	SD	Total
Inadequate material	16	41	42	44	143
Percentage	11.2	28.7	29.4	30.8	100
Cumulative percent	11.2	39.9	69.3	100.1	
No penalty for defaulting institution	25	25	46	47	143
Percentage					
Cumulative percent	17.5	17.5	32.2	32.9	100
	17.5	35.0	67.2	100.1	

From table 11, Out of 143 respondents, 95 have 10 years and below number of years of experience. 22 of these have fully implemented nursing process while 73 have not. 48 respondents have years of experience of above 10 years. 16 of these have fully implemented while 32 have not fully implemented the Nursing process.

Table 11: Years of experience of Respondents

10 years and Below	Always	Sometimes	Seldom	Total
Fully implemented	11	10	1	22
Not fully implemented	35	34	4	73
Total	46	44	5	95
Above 10 years				
Fully implemented	8	7	1	16
Not fully implemented	21	11	0	32
Total	29	18	1	48

Out of all the other factors listed in table 12, Majority of the respondents (65.0%) indicated that lack of cooperation among nurses constitute the major factor militating against the implementation of nursing process followed by lack of supervision (31.4%) and poor knowledge (31.9%).

Table 12. Other factors influencing the implementation of Nursing process an indicated by the respondents

Factors	SA%	A%	D%	SD%
Poor knowledge	6.7	25.2	25.9	39.9
Experience	4.2	6.9	41.9	40.6
Lack of supervision	10.5	20.9	36.4	30.1
	Frequency	**Percentage**	**Cumulative Percent**	
Shortage of nurses	28	19.6	19.6	
Lack of cooperation among nurses	93	65.0	84.6	

Following the aforementioned factors militating against the implementation of nursing process, majority of the respondents (74.1%) in table 13 suggested that regular update workshops on Nursing process should always be organized. 47.6% of respondents suggested that materials be made readily available, 46.2% suggested that Nursing and Midwifery council should make it a criterion for institution accreditation/reaccreditation, 55.9% suggested that institutions should employ more nurses.

Table 13: Respondents' suggested strategies for promoting implementation of nursing process

Suggestions	Frequency	Percentage
Organise regular update workshop trainings on Nursing process.	106	74.1
Nursing and Midwifery council should make it a criterion for institutional accreditation of nursing practice.	66	46.2
Make materials readily available.	68	47.6
Make available current sample nursing diagnosis.	65	45.5
Employ more nurses	80	55.9

3.1.1 Hypothesis1

There will be no significant difference between years of experience and implementation of nursing process.

1. Null Hypothesis (Ho): Years of experience does not significantly influence implementation of nursing process among nurses in NAUTH.
2. Alternate Hypothesis (H_1): There is a considerable significant effect of years of experience on the implementation of nursing process among nurses in NAUTH.

The chi-square value is 1.69 (see Appendix 3)

P value of 1.69 at d.f of 1 (see Appendix 3) = 0.5

3.1.1.2 Hypothesis 2

There will be no significant difference between institution and implementation of nursing process.

(1) Null Hypothesis (H_0): Institutional factors do not affect the implementation of nursing process among nurses in NAUTH.

(2) Alternate Hypothesis (H_1): Institutional factors affect the implementation of nursing process among nurses in NAUTH.

The chi-square value is 6.13 (see Appendix 4) and the corresponding p value is 0.01. Hence 0.01 is less than 0.05, we reject H_0 based on the decision rule (see Appendix 4) and conclude that institution significantly influence the implementation of nursing process among nurses in NAUTH.

4. DISCUSSION

The result of the study showed that nurses have the basic knowledge of the practical use of nursing process (Table 2) as all the respondents have heard and attempted the use of nursing process in care of client. This discovery is in accordance with the findings of Agunwah [5], who indicated that most nurses have the basic knowledge of nursing process but in contrast with the findings of Agyeman-Yeboah et al (6) that revealed that nurses in a hospital at Accra, Ghana were not implementing nursing process because they do not understand it.

In table 3, majority of nurses disagreed that time influence implementation of nursing process while minority agreed that time influence implementation of nursing process. This implies that nurses probably do not see time as a factor influencing implementation of nursing process.

The result of the study showed that majority of the respondents believe that institution does not significantly influence the implementation of Nursing process and minority believed that institution influence the implementation of nursing process (Table 10). This shows that nurses probably do not believe institution to be a factor influencing implementation of nursing process. This is in accordance with vroom expectancy theory who laid emphasis on the influence individuals rather than institution or workplace has on performance of a worker. This result is contrary to the findings of Aseratie [7] and Agunwah [5], who identified organization factors as among factors highly influencing nursing process implementation and to the findings of Jansson et al [8], who believe internal facilitators in the organization influence implementation of nursing process.

The findings of the study from table 11 revealed that out a total of 22 nurses with ten years and below work experience have fully implemented the nursing process whereas a total of 73 with the same years of work experience have not fully implemented the nursing process. 73 respondents who have ten years of experience have not fully implemented the nursing

process. Out of the 48 respondents with above 10 years number of work experience, only 16 have fully implemented whereas 32 respondents have not fully implemented the nursing process in client care. This implies that years of experience has not actually influenced the implementation of nursing process among nurses in NAUTH. The result in table 12 indicates that the hospital have enough nurses but lack of cooperation among the available nurses was the major factor hindering the implementation of nursing process in NAUTH. Eman et al (9) in a study titled impact of collaboration behavior among staff nurses on their quality of work life and job satisfaction noted that good inter-professional nurse-nurse interactions are vital to offer safe, competent nursing practice and to attain quality of patient care.

Majority of the respondents (74.1%) in table 13 mentioned that organizing regular update workshop trainings will help to promote the implementation of nursing process in NAUTH. Similar findings was revealed in a study conducted by Miskir et al (10) where 75.5% of the respondents mentioned that absence of training was a reason for not implementing nursing process.

Given that the study was only conducted at one institution, the findings may be peculiar to the study settings.

Findings from testing the Hypothesis

From the table 11, the p value of 1.69 is greater than 0.05 and based on the decision rule, the null hypothesis was accepted and it implies that years of experience does not significantly influence the implementation of nursing process among nurses in NAUTH.

Also , from table 11, the p value of 6.13 is less than 0.05 and based also on the decision rule, the null hypothesis was rejected and the alternate hypothesis accepted and it implies that institution significantly influence the implementation of nursing process among nurses in NAUTH. Respondents' opinion on strategies to promote implementation of nursing process.
Since majority of the respondents pointed out lack of co-operation among nurses as a major factor militating against the implementation of nursing process, they suggested organization of regular update workshops on nursing process to be employed.
From the data, though all nurses studied indicated to have attempted implementing nursing process, minority have fully implemented it and even a fewer number have fully implemented it all the time. This implies that although most nurses have been taught the theoretical aspect of nursing process, ability to put it into practice is farfetched and since nurses have knowledge deficit about practical use of nursing process, they would not be very keen to practice what they have not well understood.

Implication of the study

1. It is obvious that though nurses in NAUTH have basic knowledge of nursing process, they have not yet fully implemented it in daily care of clients.

2. The fact that nurses have attempted though not fully utilized the nursing process points out that certain factors have been identified to influence their implementation of nursing process.

3. The identified factors require joint effort from the nurses, nurse leaders, Nursing and Midwifery council of Nigeria and all in other to meet client needs, promote evidence based nursing practice and promote the growth of nursing profession.

If nurses are properly assisted to overcome their ignorance and hindrance to effective implementation of nursing process, they would no doubt practice it and clients would receive comprehensive consistent and quality care as a result.

4. CONCLUSION

Based on the findings, the implementation of nursing process has not been fully established in the daily care of clients. The major constraints involved affects nurses, nursing leaders and the institution and policy makers. Lack of cooperation among nurses was the major factor militating against the implementation of nursing process in NAUTH. The study has provided an additional information to nurses on factors that can hinder the utilization of the nursing process. It has further provided a basis for the health sector to formulate policies that will improve the utilization of the nursing process in the care of patients.

CONSENT

Verbal consent was obtained frommatrons and nurses of each ward and units before commencing. The questionnaire was administered to the respondents, instructions in the form of a letter was attached to the questionnaire and the researcher further explained to the respondents how to complete every section of the questionnaire.

ETHICAL APPROVAL

The researcher sought approval from the ethical review committee of NAUTH before commencing the study.

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DEFINITIONS, ACRONYMS, ABBREVIATIONS

CHER: Children Emergency Ward; A&E: Accident and Emergency; FSW: Female surgical ward; MSW: Male Surgical Ward; PAED: Pediatric Ward; SCBU: Special Care Baby Unit; FMW: Female Medical Ward; MMW: Male Medical Ward; ICU: Intensive Care Unit; RM: Registered Midwife; BNSC: Bachelor of Nursing Science.

APPENDIX 1

Correlation technique using Pearson-product moment correlation coefficient by Raw score method.

Where N = sample size = 12

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{[N\sum x^2 - (N\sum x^2)][N\sum Y^2 - (\sum Y^2)]}}$$

X 0dd Nos	Y Even Nos	XY	X^2	Y^2
8.5	12.5	106.25	72.25	156.25
14	10	140	196	100
9.5	12	114	90.25	144
10.5	12	126	110.25	144
12.5	11	137.5	156.25	121
11.5	10	115	132.25	100
∑66.5	67.5	738.75	757.25	765.25

N = 12

∑ X Y = 738.75

∑ X = 66.5

∑ X^2 = 757.25

$\sum Y = 67.5$

$\sum Y^2 = 765.25$

$r = 12(738.75) - (66.5)(67.5)$

$$\sqrt{[12(757.25) - (66.5)^2] \; X \; [12(765.25) - (67.5)^2]}$$

$= 8865 - 4488.75 = 4376.25$

$$\sqrt{[9087 - 4422.25] \; X \; [9183 - 4556.25]} \qquad \sqrt{4664.75 \; x \; 4626.75}$$

$= 4376.25 = 4376.25$

$$\sqrt{215826321} \qquad \sqrt{4645.71}$$

0.9411

:. r = 0.94 = Reliability coefficient of the half tests.

Using

Spearman – Brown prophecy formula to obtain the reliability of the whole test, $r_w = \frac{nr}{1+r}$

Where r_w = Reliability coefficient of the whole test

r = Reliability coefficient of the two spilt halves

n = number of the test = 2 (that is odd and even numbers)

$r_w = \frac{2 \times 0.9411}{1+0.9411} = \frac{1.8822}{1.9411}$

= 0.9697 Ω 0.97

:. r_w = 0.97

APPENDIX 2

Calculation of sample size

CHER = $\frac{18 \times 156}{255}$ = 11

A & E = $\frac{41 \times 156}{255}$ = 25

FSW = $\frac{21 \times 156}{255}$ = 12

MSW = $\frac{23 \times 156}{255}$ = 14

PAED = $\frac{20 \times 156}{}$ = 12

255

SCBU = $\frac{25 \times 156}{255} = 15$

Lying in ward = $\frac{27 \times 156}{255} = 16$

FMW = $\frac{21 \times 156}{255} = 12$

MMW = $\frac{23 \times 156}{255} = 14$

ICU = $\frac{18 \times 156}{255} = 11$

Labour = $\frac{18 \times 156}{255} = 11$

Total = 153

APPENDIX 3

Testing of Hypothesis 1 using Chi-square

From Table 11, Research Question 4, out of a workgroup of 143 nurses.

Years of experience 10 years and below = 95

Years of experience above 10 years = 48

Out of the 95 nurses, 22 indicated full implementation

Out of 48 nurses, only 16 fully implemented the nursing process.

	Above 10 years	**10 years and below**	**Total**
Fully implemented	16	22	38
Not fully implemented	32	73	105
	48	95	143

Decision Rule: Reject Ho if p value of Chisquare value is less than 0.05. Otherwise accept.

Chisquare formula (X^2) = $\sum \frac{(0-E)2}{E}$

Where 0 = observed frequency

E = expected frequency = $\frac{\text{row total x column total}}{\text{Gross total}}$

Table 13

0	E	0-E	$(0-E)^2$	$\frac{(0-E)2}{E} =$
16	$\frac{38\ X\ 48}{143}$ 12.76	3.24	10.48	0.82
22	$\frac{38\ X\ 95}{143}$ = 25.24	-3.24	10.48	0.42
32	$\frac{105\ X\ 48}{143}$ = 35.24	-3.24	10.48	0.30
73	$\frac{105\ X\ 48}{143}$ = 69.76	3.24	10.48	0.15

Adding up = 0.82 + 0.42 + 0.30 + 0.15 = 1.69

Degree of freedom (d.f) = (R-1) (C-1) where R = number of rows

C = number of columns

= (2-1)(2-1) = 1