

## Original Research Article

# Outcome of nursing intervention on knowledge and use of nursing process among nurses in zonal hospitals, rivers state, Nigeria

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## ABSTRACT

**Background:** Nursing process if properly utilized help nurses to be accountable and responsible for the care given. With all of its benefits it has suffered poor implementation and utilization in developing countries, Nigeria inclusive. Hence, this study determined the outcome of nursing intervention on knowledge and use of nursing process among nurses in Zonal Hospitals in Rivers State.

**Methods:** This study adopted a two group pretest-posttest quasi-experimental design. Purposive sampling technique was used to select 41 nurse participants who were working in in-patient management units from the 2 Zonal Hospitals. The instrument for data collection included a checklist and nursing process questionnaire. The reliability was determined with a Cronbach's alpha index range of 0.77-0.91. Descriptive statistics of percentages, mean and standard deviation was used to answer six research questions.

**Results:** The pre-intervention knowledge mean score of nursing process was below average for the two groups but became high in the experimental group at post-intervention. Also, pre-intervention use mean score of nursing process was below average in both groups but high after intervention in the experimental group.

**Conclusions:** The study concluded that nursing intervention was effective in improving the knowledge and use of nursing process among the nurses. Thus, the outcome was positive as changes were noted. It is recommended that in-service educational program should be established to provide continuous education for nurses to refresh their knowledge and enhance their usage of nursing process.

**Keywords:** Intervention, Knowledge, Nursing process, Use

## INTRODUCTION

Nursing Process (NP), a global tool for quality nursing care was introduced in Nigeria about three decades ago. It is targeted at individualized patient care and if properly implemented, help nurses to provide independent patient care and be self-directed. However, despite the benefits, a number of hospitals are still not utilizing the nursing process. Statistics show, from previous studies none or low usage of the nursing process by nurses ranging from 0% to 27.5%.<sup>1,2</sup> Previous studies have focused on

knowledge and implementation of the use of nursing process, only very few have done intervention studies.<sup>3,4</sup>

The weakness in these studies is that they fail to improve the nurses' use of the nursing process in patient care. Akhtar et al. suggested that lack of nursing process application can lower the quality of care, increase the patient's length of stay in hospital which cause more treatment cost.<sup>5</sup> Poor quality will in turn predispose to increase morbidity and mortality. The researcher's observation revealed increase patients' attendance in the

tertiary hospitals, even with cases that ordinarily would have been treated in the zonal hospitals located in or close to their communities. They bypass these Zonal hospitals and travel long distance to the tertiary hospitals to seek medical care increasing the likelihood of the condition becoming complicated and some even seek traditional practitioners with its associated complications. Similarly, Koce, Randhawa and Ochieng in their study revealed that the higher levels healthcare institutions are overloaded with minor medical conditions that easily could have been managed in the secondary facilities and are weighed down above their capabilities.<sup>6</sup> They further revealed that the patients' saw it as a waste of time to attend these facilities since expected standards are lacking. Given the above scenario, quality of nursing care at primary and secondary health facilities are perceived to be poor. More so, literature have shown poor knowledge and lower utilization of nursing process, thereby affecting the standard of services rendered. Therefore, this study will examine the outcome of nursing intervention on knowledge and use of nursing process among nurses in Zonal hospitals, Rivers State.

### **Research questions**

The following research questions were answered

- What is the pre-intervention knowledge mean score of nursing process among the intervention and control group?
- What is the pre-intervention use mean score of nursing process among the intervention and control group?
- What is the post-intervention knowledge mean score of nursing process among the intervention and control group?
- What is the post-intervention use mean score of nursing process use among the intervention and control group?
- What is the difference in the pre and post intervention knowledge mean score of nursing process in the intervention and control groups?

## **METHODS**

A quasi-experimental design comprising of two groups: experimental and control group were designed. The study population consist of all the certified nurses working in the 2 Zonal hospitals in the two senatorial districts in Rivers State. Population of nurses from Zonal Hospital Bori was 29 and Zonal Hospital Ahoada was 34. The inclusion criteria include all the nurses below the rank of Chief nursing officer in the selected hospitals working in in-patients' management units and nurses who give their informed consent.

Purposive sampling technique was used to select 41 participants based on inclusion criteria after proportional allocation of sample size to each of the hospital: Bori-20 nurses and Ahoada-21 nurses because the sample size

was relatively small. Selection of the experimental and control group was determined by tossing a coin after assigning each side of the coin to control and experimental group.

### **Instrumentation**

Two instruments were used, 1) An adapted questionnaire developed by Thet 7 which was slightly modified. It consists of 2 sections with section A on socio-demographic and Section B on knowledge of the 5 steps of nursing process consisting of 40 items on a two- point response scale of true and false. Knowledge scores of respondent between 27 to 40 as high, 14 to 26 as moderate, 1 to 13 as low. 2) A structured Nursing Process Use Checklist was used to assess the participant's performance in formulating or applying the nursing process based on a case study in the nursing process record. The checklist has 15 items in which each is scored 1 to 3. This was used for pre and post-test assessment. High 31 to 45, moderate 16 to 30 and low 1 to 15.

### **Reliability**

Copies of the instruments was pre-tested using a group of 10 nurses at Zonal hospital, Isiokpo. These nurses were not part of the real sample. After their response, the data was subjected to Cronbach alpha analysis using SPSS Version 23. The reliability coefficient index was 0.91 and 0.79 for the two instruments respectively.

### **Method of data collection**

Data collection was in three major phases which include A pre intervention visit session, intervention session, post intervention session

### **Method of data analysis**

The completed test paper was coded and analyzed using the Statistical Package for Social Science (SPSS) version 21. The research questions of the study were answered using descriptive statistics of mean, standard deviation and percentages.

### **Ethical consideration**

Ethical approval for this study was obtained from Babcock University Health Research Ethics Committee (BUHREC).

## **RESULTS**

The pre-intervention mean score of nursing process in the control (19.65) and experimental (19.83) groups signify below average knowledge of nursing process. Table 2 above presents the pre-intervention use mean score of nursing process among the participants in intervention (21.00) and control (20.87) group to be below average.

**Table 1: Pre-intervention knowledge mean score of nursing process among the intervention and control group**

Knowledge	Category of scores	Control		Experimental	
		Fre.	%	Freq.	%
Low	1-13	9	45.0	8	38.1
Moderate	14-26	7	35.0	8	38.1
High	27-40	4	20.0	5	23.8
Total		20	100	21	100
Mean/Percentage	19.65 (49.13%)			19.83 (49.56%)	
Standard dev.	6.23			6.39	

**Table 2: Pre-intervention use mean score of nursing process among the intervention and control group.**

Use/Practice	Category of scores	Control		Experimental	
		Freq	%	Freq	%
Low	1-15	9	45.0	7	33.3
Moderate	16-30	8	40.0	10	47.6
High	31-45	3	15.0	4	19.0
Total		20	100.0	21	100.0
Mean/percentage	20.87 (46.37%)			21.00 (46.66)	
Standard dev.	9.22			9.17	

**Table 3: Post-intervention knowledge mean score of nursing process among the intervention and control group.**

Knowledge	Category of scores	Control		Intervention	
		Freq	%	Freq	%
Low	13-1	8	40	-	-
Moderate	14-26	8	40	5	23.8
High	27-40	4	20	16	76.2
Total		20	100	21	100
Mean/Percentage	19.81 (49.53%)			33.54 (83.85%)	
Standard dev.	5.89			3.88	
Mean difference	13.43				

Table 3 above presents the post-intervention knowledge mean score of nursing process among the intervention and control group. The post-intervention knowledge mean score of nursing process among the participants in the intervention group was higher ( $33.54 \pm 3.88$ ) compared to the mean score of the control group ( $19.81 \pm 5.89$ ). Thus, it could be said that the participant's knowledge of nursing process in the intervention group was enhanced compared to the control group after their exposure to the training.

Table 4 above presents the post-intervention use mean score of nursing process in the intervention group to be higher ( $39.97 \pm 5.13$ ) compared to the control group ( $20.91 \pm 9.19$ ). Thus, it could be said that the participant's use of nursing process in the intervention group was enhanced compared to the control group after their exposure to the training.

**Table 4: post-intervention use mean score of nursing process among the intervention and control group.**

Use/practice	Category of scores	Control		Intervention	
		Freq.	%	Freq.	%
Low	15-1	9	45	-	-
Moderate	16-30	7	35	7	33.3
High	31-45	4	20	14	66.7
Total		20	100	21	100
Mean/Percentage	20.91 (46.7%)			39.97 (88.8%)	
Standard dev.	9.19			5.13	
Mean difference	21.06				

## DISCUSSION

The outcome of this study on pre-intervention knowledge mean score of nursing process among the participants in intervention and control groups were found to be below average. This result is consistent with Mwangi et al who found that their respondents lack knowledge of nursing process.<sup>8</sup> Similarly, Mbithi et al reported that more than two-thirds of 249 respondents in their study had poor knowledge of nursing process.<sup>9</sup> These findings are contrary to the findings of Folami et al. in Lagos and Inuwa et al. in University of Maiduguri Teaching Hospital who reported high knowledge of nursing process among their respondents.<sup>4,10</sup>

The pre-intervention use mean score of nursing process among the participants in both control and intervention groups were found to be below average. The results lend credence from the previous findings of Wahab on the utilization of nursing process for patient care in Ghana which showed that the use of nursing process was low.<sup>11</sup> Similarly, a study by Jokotagba involving 32 nurses showed that the utilization of nursing process was poor.<sup>12</sup> Also, Ojewole et al reported that only 24.9% of the records assessed contained the nursing process form.<sup>2</sup>

The findings of this study revealed that the participant's knowledge of nursing process in the intervention group was enhanced compared to the control group after their exposure to the intervention. This implies that intervention is a good method of improving knowledge of nurses on nursing process. This result is in line with the findings of Jokotagba who worked on impact of training

programme on nursing process utilization using primary healthcare centre nurses in Ijebu-Ode.<sup>12</sup>

The outcome of this study revealed that the participant's use of nursing process in the intervention group was enhanced compared to the control group after their exposure to the training. The implication of this finding is that the improvement seen in the use of nursing process among the participants in the experiment group may not have occurred by chance but due to the training received.

This supports the findings of Linch et al who carried out an intervention study on nursing record quality in South Region of Brazil in a philanthropic hospital and their findings indicated that educational intervention had impact in nursing process recording quality and use.<sup>13</sup> The findings correspond to those realized by Opare (2017) who found 77% utilization rate after training of nurses in his study in Ghana.<sup>14</sup>

## CONCLUSION

The result from this research has validated the effectiveness of the training package on knowledge and use of nursing process by nurses as being effective. Based on the findings of the study, there was a significant difference in the post intervention knowledge and use mean scores of nursing process. This study outlines how improved documentation of the nursing process, caused reflective behavior among the nurses and helped them to plan more suitable nursing care.

This study concluded that knowledge and use of nursing process could help its utilization in patient care which will allow for involvement of patients in their own care. Therefore, the use of nursing process should be encouraged in zonal hospitals and beyond by training and retraining of nurses for up to date knowledge and its use in patients' care as this will enhance quality nursing care thus improve patients' health outcome.

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## REFERENCES

1. Agyeman J, Korsah KA. Non-application of the nursing process at a hospital in Accra, Ghana: lessons from descriptive research. Biomed central J nursing. 2018;17(1):45.
2. Ojewole FO, Samole AO. Evaluation of the nursing process utilization in a teaching hospital, Ogun State, Nigeria. J Nurs Midwife Sci. 2017;4(3):97.
3. Abdelkader FA, Othman WN. Factors affecting implementation of nursing process: nurses' perspective. J Nurs Health Sci. 2017;6(3):76-82.
4. Folami F, Olowe A, Olugbade, J. Factors affecting the use of nursing process in Lagos University Teaching Hospital, Lagos, Nigeria. Int J Africa Nursing Sci. 2019;10:26-30.
5. Akhtar S, Hussain M, Afzal M, Gilani SA. Barriers and facilitators for execution of nursing process among nurses from medical and surgical wards in a public hospital Lahore. Int J Social Sci Management. 2018;5(3):170-86.
6. Koche F, Randhawa G, Ochieng B. Understanding healthcare self-referral in Nigeria from the service users' perspective a qualitative study of Niger State. Biomed Central Health Services Res. 2019;19:209.
7. Thet LL. Nursing process model application in Malaysian nursing education.
8. Mwangi C, Menganyi LW, Mbugua RG. Utilization of the nursing process among nurses working at a level 5 Hospital, Kenya.
9. Mbithi BW, Mwenda CS, Karonjo J. Observed utilization of the nursing process among nurses in selected public health care facilities in Kenya. Int J Nursing. 2018;8(5):77-82.
10. Inuwa A, Habu H, Emmanuel OC, Maigari B, Dathini H, Haruna H, et al. Assessment of level of the knowledge, utilisation and barriers of nursing process as a tool for effective nursing care among nurses in University of Maiduguri Teaching Hospital, Maiduguri, Nigeria. Pacific J Sci Technol. 2019;1(1):182-91.
11. Wahab O. Utilisation of the nursing process for patient care in Ghana: The case of nurses of Tamale teaching hospital. University of Cape Coast, Ghana. 2017.
12. Jokotagba A. Impact of a training programme on utilization of nursing process among community health nurses in primary health care centres in Ijebu-Ode LGA. Babcock University, Ilisan. 2017.
13. Linch GFDC, Lima AAA, Souza END., Nauderer TM, Paz AA, da Costa C. An educational intervention impact on the quality of nursing records. Revista Latino-Americana de Enfermagem. 2017;25:e2938.
14. Opare M, Asamani JA, Johnson JY, Puplampu JB, Atubran B, Addae MO, et al. Assessment of utilization of nursing process in a district Hospital in Ghana. Numid Horizon. 2017;1(1):57-68.

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