

# Clinical Utilization of Nursing Process in Improving Patient's Outcome and Its Associated Factors: A Cross-Sectional Study among Nurses and Midwives Working at Njombe Regional Referral Hospital, Tanzania

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## Abstract

**Background:** Improvement of patient care in any hospital depends primarily on the quality of nursing care. Nursing care is enhanced by the nursing process, which outlines the nursing activities to be provided for a patient. **Methods and Materials:** A cross sectional design employing quantitative methods was conducted in Njombe RRH in December 2021. Quantitative data were collected from nurses and midwives from all wards by simple random sampling techniques using a sample-size calculator. SPSS version 26.0 was used to analyse data whereby a p-value of 0.05 was considered a decision mark for the significance of the result; Chi-square and Logistic regression respectively were used to find out the association and its strength between variables. **Result:** Majority of the respondents, 41 (85.4%), had inadequate knowledge and 33 (68.8%) found them people with a negative attitude to the nursing process. Significantly, there is an association between knowledge and clinical utilization (AOR 2.24; 95% CI: 1.6 - 2.5; P 0.04), attitude and clinical utilization (AOR 4.32; 95% CI: 1.8 - 3.7; P < 0.001). **Conclusion:** A knowledge gap in relation to the utilization of the nursing process and a negative attitude were noted to be associated significantly with the utilization of the nursing process among nurses and midwives. It is recommended on-job training, supportive supervision, and Value Clarification and Attitude Transformation (VCAT)

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are the best interventions to address the knowledge gap and negative attitudes respectively.

## Keywords

Clinical Utilization, Knowledge, Attitude, Patient's Outcome, Nursing Process

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## 1. Introduction

The nursing process is the gold standard for nursing care provision and the only guide that enables nurses to adequately communicate patients' general conditions for the purpose of continuity of care within nursing and interdisciplinary health care teams [1]. It has been adopted in many developed countries and there is evidence that it is actually being used by nurses with positive patient outcomes [2].

The nursing process has been defined as a series of critical thinking activities that are used by nurses as they care for their patients [3]. These activities define a nursing model of care, differentiating nursing from other helping professions. The nursing process consists of interconnected steps, and it is an organized and self-motivated way of giving nursing care to patients. It encourages humanistic, outcome focused, cost-effective care; and it is based on the belief that, as we plan and convey care, we must also consider the exceptional values, concerns, and desires of the consumer, who may be an individual, a family, or a community [4].

The nursing process as a systematic approach intended to guide nursing practice with a view to improving the quality of care. It helps nurses to establish and maintain a certain standard of care that enhances quality over time while facilitating the provision and management of care [5]. Nurses use the nursing process at all levels of care to guide their interventions depending on the health care problems identified in the client [6]. The nursing process requires both human and non-human resources as well as ample institutional organization to enable successful execution in all settings with the objective of improving health outcomes for all groups of persons [2].

The utilization of the nursing process and a nursing diagnosis has been identified as critical to nursing practice [7]. Some of the factors affect the use of nursing.

The process has been studied among nurses working in various health institutions. Several factors were found to impede the efficient implementation of the nursing process. Operational difficulties involved in the systematization of nursing care in practice, such as a lack of knowledge of the steps involved in the process, too large number of tasks assigned to the nursing team, the poor quality of professional education, and inadequate reports on the physical examination related to the disease, are among these factors (Pokorski, *et al.*, 2009). The nursing process and the resulting written plan of care pick up communication through the allotment of knowledge and information between departments and shifts, as well as ensuring better communication with the multidisciplinary team [8].

Although the nursing process is a major element of nursing education in sub-Saharan Africa [9], most countries face major issues with its effective implementation in almost all health care settings and the extent to which it is implemented is still very unclear. The present study will justify a follow up of the status of implementation of the nursing process. Hence, the ultimate purpose of the current study is to dig deep into the factors contributing to why nurses and midwives did not utilize the effectively nursing process in caring patients during their daily working shift, and these will focus on staffing level, knowledge, attitude and other enabling and enabling factors.

### **Research questions**

- 1) What are the enabling factors impede the implementation of nursing process?
- 2) Do nurses and midwives have adequate knowledge to implementation of the nursing process?
- 3) What are the attitude of nurses and midwives towards nursing process?
- 4) Is there significant association between knowledge, attitude and clinical utilization of the nursing process?

## **2. Methods and Materials**

### ***Study Area and duration of the study***

The study was conducted in all departments and units whereby nurses and midwives are working in Njombe Regional Referral Hospital from November 2021 to December 2021. The Hospital has a total of 59 available Beds, with an average OPD attendance of 56 Patients per day, the average in patient's admissions per day is 10 Patients; this makes total annual OPD attendance at 33,181 patients and total in-patients at 5603. The catchment area of Njombe RRH is 732,578 people and receives referrals from both public and Private Health Facilities including District Hospitals, Health Centers and Dispensary. From the regional Hospital, the patients are referred to Mbeya Zonal Hospital. Apart from the referral services, the hospital also provides service of curative, preventive and rehabilitative services in all these services nurses and midwives are keyworkforces.

### ***Study designs and population***

The facility-based cross sectional study with a quantitative approach was employed to take off the study to 48 nurses and midwives working at Njombe Regional Referral Hospital at a single point of time mid-exposures and outcome of interest; it has been selected because it is relatively cheap and less time consuming and the current study is not going neither to establish cause-and-effect relationship nor analyses behaviour over a period of time or long terms trends. A total of 48 nurses and midwives were involved in the study.

### ***Sample size determination and sampling procedure***

A selection criterion was all nurses and midwives working in Njombe Regional Referral Hospital, regardless of their professional qualifications and their experience. The sample size of 48 respondents was obtained from the 54 study population using the Sample Size Calculator as developed by Relief Applications.

A simple random sample of 48 nurses and midwives were selected from a population of 54 nurses and midwives currently working at the Hospital. Using a list of all 54 participants.

Each participant was given a number (1 to 54), and these numbers are written on small pieces of paper. All the 54 papers are kept in a box, after which the box is shaken vigorously, to ensure randomization. Then, 48 papers are taken out of the box, and the numbers are recorded. The nurses and midwives belonging to these numbers constituted the sample of the study (n = 48)

#### ***Data Collection methods and Tools***

Administering written questionnaires and reviewing documents are the two methods employed in the study for data collection, whereas Self-administered structured questionnaires for determining the enabling and reinforcing factors and attitude was adopted from the study done by Hagos with his friends [10], and knowledge assessment was adapted and modified from the study of Mwangi with his friends [11]. Documentary review of Guideline for ISS and EHPA the 2019, DHIS2 and HRMIS were used as tool for reviewing staffing level for nurses and midwives and number of patients served and admitted in the hospital (See **Table 1**).

#### ***Validity and reliability of the questionnaire***

Checking the reliability of likert scale questions made up of twenty dimensions, the Cronbach's alpha was computed for overall and each sub-dimensional item to check the internal reliability and consistency of results prior to the actual study, in order to determine the reliability of modified questionnaires. According to George & Mallery [12] (2003:231), these authors provided the following rules of thumb on Cronbach's Alpha value;  $\geq 0.9$  Excellent,  $\geq 0.8$  Good,  $\geq 0.7$  Acceptable,  $\geq 0.6$  Questionable,  $\geq 0.5$  Poor and  $\leq 0.4$  Unacceptable. The Cronbach's alpha ranges between 0 (denoting no internal reliability) and 1 (denoting perfect internal reliability).

As shown in **Table 2**, Cronbach's alpha result was acceptable for analysis with

**Table 1.** Sources of research instruments.

Specific Research Objectives	Tool	Analysis
To determine the enabling and reinforcing factors	Self-administered structured questionnaire	Descriptive analysis
To assess knowledge on nursing process among nurses and midwives	Self-administered structured questionnaire	Descriptive and Binary Logistic analysis
To assess attitude of nurses and midwives on nursing	Self-administered structured questionnaire	Likert analysis

**Table 2.** Overall reliability statistics.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.76	0.90	20

Source: SPSS Version 26.0 output, 2021.

a score of 0.76. This indicated that the items were reliable and the item statistics released meant they didn't exceed 1 and, therefore, all items were analysed. Inter-item correlation using SPSS version 26.0 was also computed and observed to detect whether the items on the Likert-type scale and items for trapped's attitude are trapped into the same underlying concept. This conclusion was made based on a rule of thumb for similar fair means and any items that have scores that are quite a lot higher (or lower) than the others were thought to be removed from the questionnaire to make it reliable [12].

### ***Research Variables***

The current papers consist of dependent variables; clinical utilization of the nursing process and several independent variables, including knowledge, attitude, administration support, resource allocation, time, nurse-patient ratio, feedback, motivation, on-job training and professional educational level. Knowledge and attitude variables were operationalised to make them measured by choosing appropriate indicators as shown in **Table 3**.

### ***Data collection procedure***

Data was collected by one trained diploma nurse and one-degree holder of Nursing research assistant from the respondents in their working areas after clearly filling out an informed consent form and providing instructions on how to attempt the administered questionnaire. Attempted questionnaires were then collected for a while and this was taken as a matter of agreement between data collectors (research assistants) and respondents about the convenient time for collection and giving ample time for attempting.

### ***Data processing and analysis***

Data was checked for the completeness, missing values, and coding of questionnaires was done; then, the data was entered into the computer and processed (data cleaning) and analyzed using SPSS version 26.0. The data was summarized and described using descriptive statistics and chi-square and binary logistic regression was used to determine the relationship of socio-demographic characteristics

**Table 3.** Measurement of research variables.

Research Objective	Variable	Variable Measurement	
		Scale	Indicator
To assess knowledge on nursing process among nurses and midwives	Knowledge	NA	1. Inadequate Knowledge (0 - 15 correct answers) 2. Adequate Knowledge (16 - 33 Correct answers)
To assess attitude on nursing process among nurses and midwives	Attitude	NA	1. Negative Attitude (0 - 49 points) 2. Positive (50 - 100 points)
Outcome Variable	Clinical Utilization of Nursing Process	NA	1. Applied = Yes in all 7 items. 2. Not applied = No either one item.

Source: Authors, 2021.

with knowledge and attitude; relationship of staffing level, knowledge, and attitude to clinical application of processes among nurses and midwives. Then, finally, data presented in tables, graphs, frequency, percentages.

#### ***Ethical Clearance and Consent to participate***

Ethical approval was granted by Njombe RRH Research Ethic Committee with an approval letter (NRRH/REC/2022/01). Study participants were assured privacy, confidentiality and anonymity to be observed throughout the study, informed about the purpose of the study, the assortment of information needed from them and they can refuse or stop.

### **3. Result**

#### ***Response Rate***

Total of 48 participants were involved in the study which is 100% of all sampled participants as shown in **Table 4**.

#### ***Social demographic characteristics among respondents***

The findings of the study as presented in **Table 5** show that it accounts for 16

**Table 4.** Response rate of the study.

Total Nurses and Midwives	Sample Size	Response Rate of Sample	Non Response Rate of Sample
54	48	48	0
100%	88.8%	100%	0%

**Table 5.** Socio-demographic characteristics of the nurses and midwives (n= 48).

Variables	Variable Categories	N	%
Sex	Male	16	33.3
	Female	32	66.7
Age	20 - 30 years	21	43.8
	31 - 40 years	24	50
	41 - 50 years	3	6.3
	50 years and Above	0	0
Working Experience	0 - 5 yrs	33	68.8
	6 - 10 years	10	20.8
	11 - 15 yrs	5	10.4
	16 yrs and more	0	0
Highest Professional Qualification	Technician Certificate	24	50
	Ordinary Diploma	22	45.8
	Bachelor Degree	1	2.1
	Master Degree	1	2.1
Current Employment Position	Enrolled Nurses	23	47.9
	Assistant Nursing Officer	23	47.9
	Nursing Officer	2	4.2

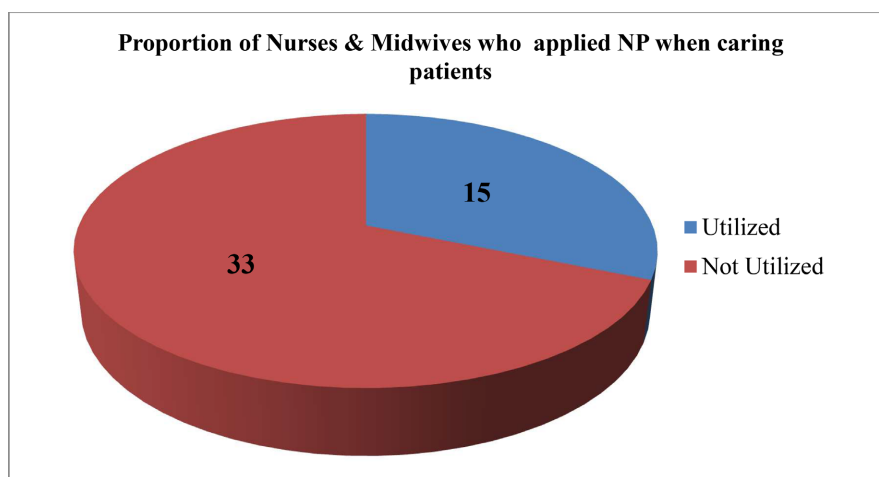
(33.3%) and females, 32 (66.7%). The demographic age of the age of the nurses and midwives were found that a large sample falls between the ages of 31 - 40 years, which shows 24 (50%), whereby the sample mean of age was 30.9 and 33. More nurses and midwives attained a technician certificate in Nursing, which accounts for 24 (50%).

#### ***Clinical utilization of Nursing Process***

Of total study participants, 15 (31.3%) were effectively utilized nursing process in their Daily working when caring patients as shown in **Figure 1**.

As reported in **Table 6**, Individual response on application of nursing process was also analysed to identify distribution of participants with their response.

As revealed in **Table 7**, individual response on the most difficult area in implementing the nursing process revealed that, 31 (64.6%) agreed that implementing nursing intervention is the most difficult area in the nursing process and 29 (60.4) reports for nursing diagnosis as the most difficult area while 34 (70.8%) did not agreed that documenting is the difficult area in nursing process.



Source: Field data, 2021.

**Figure 1.** Clinical utilization of Nursing process among Nurses and Midwives (n = 48).

**Table 6.** Individual response on the application of Nursing Process

SN	Items	Response	
		Yes (%)	No (%)
1	Do you follow steps of NP during provision of care?	38 (79.2)	10 (20.2)
2	Does data collection take place during assessment phase?	41 (85.4)	7 (14.6)
3	Have you developed nursing diagnosis?	33 (68.8)	15 (31.2)
4	Have you ever prepared nursing care plan based on your diagnosis?	30 (62.5)	18 (37.5)
5	Have you been implanting the care plan you have developed?	33 (68.8)	15 (31.2)
6	Have you ever been evaluating the effectiveness of your interventions?	38 (79.2)	10 (20.8)
7	Have you been documenting your nursing intervention?	35 (72.9)	13 (27.1)

***Enabling and reinforcing factors for clinical utilization of nursing process***

Of the total study participants, 32 (66.7%) participants said hospital administration do not support the application of nursing process and 29 (60.4%) said there is no appreciating feedback available for application of nursing process as shown in **Table 8**.

***Knowledge on Nursing Process among nurses and midwives***

The results of knowledge of the nursing process revealed that 41 (85.4%) of the study participants had inadequate knowledge of the nursing process and only 7 (14.6%) were found with adequate knowledge. **Table 9** presents general knowledge whereby 28 (58.3% were unable to identify parties involved in developing the

**Table 7.** The most difficult area to implement in Nursing process (n = 48).

SN	Areas of Nursing Process <i>Which of the following is the most difficult area in NP?</i>	Response	
		Yes (%)	No (%)
1	Nursing diagnosis	29 (60.4)	19 (39.6)
2	Planning for intervention	25 (52.1)	23 (47.9)
3	Implementing nursing interventions	31 (64.6)	17 (35.4)
4	Evaluating nursing intervention	26 (54.2)	22 (45.8)
5	Documenting intervention	14 (29.2)	34 (70.8)

**Table 8.** Reinforcing and enabling factors for clinical utilization of nursing.

SN	Reinforcing & enabling factors	Response		
		Yes	No	I don't Know
1	Does the hospital administration support the application of nursing process?	14 (29.2%)	32 (66.7%)	2 (4.2%)
2	Is the allocation of resources for application of nursing process adequate?	19 (39.6%)	29 (60.4%)	0 (0%)
3	Is allocated time sufficient to apply the nursing process?	26 (54.2%)	22 (45.8%)	0 (0%)
4	Is the nurse/patient ratio optimal to apply the nursing process?	17 (35.4%)	22 (64.6%)	0 (0%)
5	Is the appreciating feedback available for application of nursing process?	14 (29.2%)	29 (60.4%)	5 (10.4%)
6	Do the monitoring and evaluation for application of nursing process exist?	16 (33.3%)	32 (66.7%)	0 (0%)
7	Are the salary and motivation motivating for application of nursing process?	14 (29.2%)	31 (64.6%)	3 (6.3%)
8	Have you got on-job training on nursing process?	18 (37.5%)	30 (62.5%)	0 (0%)
9	Is your educational level adequate to apply nursing process?	33 (68.8%)	12 (25%)	3 (6.3%)



**Table 9.** General knowledge of the nurses and midwives on nursing process.

SN	Recasted General Questions	Response	
		Correct	Incorrect
1	Purpose of nursing process	22 (45.8%)	26 (54.2%)
2	Steps in nursing process ( <i>in number form</i> )	24 (50%)	24 (50%)
3	Steps in nursing process ( <i>Chronological lit form</i> )	24 (50%)	24 (50%)
4	Parties involved in developing nursing care plan	20 (41.7%)	28 (58.3%)

nursing process.

The knowledge of participants on individual question was also considered to highlight the most area in which participants were conversant or not. Result shows, 44 (91.7%) participants were unable to define assessment in the context of nursing process and only 9 (18.8%) were able to differentiate between nursing and medical diagnosis (See **Table 10**).

#### ***Attitude of Nurses and Midwives on nursing process***

The study intended to assess attitude of nurses and midwives in application of nursing process. Out of study participants, 15 (31.3%) had positive attitude on nursing process and 33 (68.8%) found with negative attitude and as shown in **Table 11** presents response on individual items.

#### ***Association between knowledge, attitude and clinicalutilization***

As revealed in the **Table 12**, presents the results on influence of knowledge and attitude on nursing process in relation to its clinical utilization. Result from the Chi-square test and binary logistic regression showed that, there is a statistically significant association between knowledge and clinicalutilization (AOR 2.24; 95% CI: 1.6 - 2.5; P 0.04), attitude and clinical utilization (AOR 4.32; 95% CI: 1.8 - 3.7; P 0.000).

## **4. Discussion**

The result of this study showed that most of the enabling and reinforcing factors did not egg on nurses to apply to the nursing process. For instance, more than half (66.7%) of the respondents said that the administration of the hospital did not support the application of the nursing process; 64.6% said the nurse/patient ratio is not optimal for applying the nursing process; 60.4% said there is no monitoring and evaluation for application of nursing process and 66.7% said there is no appreciating feedback available for application of nursing but more than half (64.6%) of the respondents did not agrees if salary and motivation can motivating for application of nursing process even though 62.5% said they did not get on-job training on nursing process. Findings of study are parallel to that. of Hagos with his friends [10], who found slightly less than half (47%) of the respondents said that the administration of the hospital supported the application of the nursing process these similarities and 75% said there was an imbalance between the nurse/patient ratio.

**Table 10.** Specific knowledge of the nurses and midwives on nursing process.

SN	Recasted Specific Questions on steps of Nursing process Knowledge on Assessment	Response	
		Correct	Incorrect
1	Meaning of Assessment in relation to nursing process	4 (8.3%)	44 (91.7%)
2	Activities involved in assessment process	3 (6.3%)	45 (93.8%)
3	Taking nursing history during admission	13 (27.1%)	35 (72.9%)
<b>Nursing Diagnosis</b>			
4	Difference between nursing and medical diagnosis	9 (18.8%)	39 (81.3%)
5	Formulating nursing diagnosis	25 (52.1%)	23 (47.9%)
6	Documenting nursing diagnosis	18 (37.5%)	30 (62.5%)
7	Interval for evaluating nursing diagnosis	30 (62.5%)	18 (37.5%)
<b>Planning</b>			
8	Definition of planning in the context of nursing process	24 (50%)	24 (50%)
9	Major components of planning	14 (29.2%)	34 (70.8%)
10	Use of nursing care plan in conjunction with Kardex System	7 (14.6%)	41 (85.4%)
11	Components of Standardized nursing care plan	8 (16.7%)	40 (83.3%)
12	Meaning and purposes of nursing care plan	17 (35.4%)	31 (64.6%)
13	Applicability of nursing care plan in individualized patient	14 (29.2%)	34 (70.8%)
<b>Implementation</b>			
14	Contents of the Implementationstep	15(31.3%)	33(68.8%)
15	Implementation of nursing care plan in improving patient outcome	12(25%)	36(75%)
<b>Evaluation</b>			
16	Meaning of evaluation in the context of nursing process	8 (16.7%)	40 (83.3%)
17	Importance of evaluating nursing care plan	8 (16.7%)	40 (83.3%)
<b>Nursing Documentation</b>			
18	Documentation in relation to the nursing process	13 (27.1%)	35 (72.9%)
19	Contents of nursing documentation in relation to nursing process	21 (43.8%)	27 (56.3%)
20	Purpose of appropriate and accurate recording in nursing process	7 (14.6%)	41 (85.4%)
21	Judgement of the care provided by the evidence of documentation	15 (31.3%)	33 (68.8%)

The findings revealed that although the nurses were taught the nursing process at school, more than a third quarter of the nurses and midwives had inadequate knowledge, especially in the steps of assessment, planning and evaluation. This could be due to tutors who taught the nursing process not understanding the nursing process themselves, as observed by Mwangi with his friend in their study [11]. These findings support that of Agyeman-yeboah with her colleagues [13], who found nurses not having a better understanding of the nursing process, and that of Hugoz with his friends [10], who also found the majority of nurses

**Table 11.** Individualized items for attitude among nurses and midwives (n = 48).

SN	Items	Response				
		Strong Disagree	Disagree	I don't Know	Agree	Strong Agree
1	I like the aim of nursing process	6 (12%)	9 (18.8%)	17 (35.4%)	6 (12.5%)	10 (20.8%)
2	I am convinced the nursing process will work if applied in patient care	12 (25%)	11 (22.9%)	6 (12.5%)	9 (18.8%)	10 (20.8%)
3	The nursing process is an Elaborated Kardex system	8 (16.7%)	15 (31.3%)	11 (22.9%)	9 (18.8%)	5 (10.4%)
4	The nursing process should not used by nurses with first degree and above	15 (31.3%)	19 (39.6%)	8(16.7%)	3(6.3%)	3(6.3%)
5	Nursing process works well in practice	19 (39.6%)	3 (6.3%)	17 (35.4%)	5 (10.4%)	4 (8.3%)
6	There is enough time to apply nursing process during patient care	9 (18.8%)	8 (16.7%)	16 (33.3%)	12 (25%)	3 (6.3%)
7	Nursing process can be used in any settings	2 (4.2%)	13 (27.1%)	15 (31.3%)	15 (31.3%)	3 (6.3%)
8	Nursing process is not waste of time	16 (33.3%)	8 (16.7%)	6 (12.5%)	0 (0%)	18 (37.5%)
9	I am ready for the application of nursing process	5 (10.4%)	10 (20.8%)	10 (20.8%)	8 (16.7%)	15 (31.3%)
10	The Kardex system of nursing process record is satisfactory	5 (10.4%)	11 (22.9%)	11 (22.9%)	9 (18.8%)	12 (25%)
11	The nursing process simplifies the awareness of patients needs	5 (10.4%)	10 (20.8%)	3 (6.3%)	18 (37.5%)	12 (25%)
12	Priorities of care are easy to identify using nursing process	5 (10.4%)	12 (25%)	6 (12.5%)	10 (20.8%)	15 (31.3%)
13	I am fed up with hearing about the nursing process	13 (27.1%)	0 (0%)	8 (16.7%)	8 (16.7%)	19 (39.6%)
14	The nursing process do not involves too much of paperwork	13 (27.1%)	4 (8.3%)	7 (14.6%)	9 (18.8%)	15 (31.3%)
15	Nursing process enable nurses to provide quality of nursing care to patients	8 (16.7%)	5 (10.4%)	10 (20.8%)	7 (14.6%)	18 (37.5%)
16	I am willing to apply nursing process during patient care	0 (0%)	15 (31.3%)	11 (22.9%)	10 (20.8%)	12 (25%)
17	I think introduction of nursing process will not cause a problem	5 (10.4%)	19 (39.6%)	5 (10.4%)	3 (6.3%)	16 (33.3%)
18	I think patients will like to be cared using the nursing process	9 (18.8%)	15 (31.3%)	2 (4.2%)	12 (25%)	10 (20.8%)
19	I think the nursing staff have willingness to apply nursing process	8 (16.7%)	10 (20.8%)	11 (22.9%)	9 (18.8%)	10 (20.8%)
20	I think the staff will accept the nursing process	10 (20.8%)	11 (22.9%)	11 (22.9%)	6 (12.5%)	10 (20.8%)

have poor knowledge of the nursing process. The author observed that more than half of the nurses were unable to write down the purposes and steps of the nursing process in chronological order. This actually could reflect the real situation of caring for patients without abiding by the systematic steps. This in turn could affect a positive patient's outcome. However, the study confirmed nurses and midwives with adequate knowledge of the nursing process are two times more likely to apply it than those with inadequate knowledge. This is contrary to the study of Huguchi, Dulburgen and Duff [14], in their study on the factors

**Table 12.** Multivariate Analysis on association of Knowledge and Attitude to Clinical Utilization (n = 48).

Factors Influencing Clinical Utilization	Clinical Utilization of Nursing Process		$\chi^2$ P-Value	AOR	95% CI	P-Value
	Yes n = 48 15	No n = 14 33				
<b>Knowledge</b>						
Knowledgeable	7	14.6%	10.15	2.24	1.6 - 2.5	0.04
Not Knowledgeable (Ref)	41	85.4%	0.01			
<b>Attitude</b>						
Positive	15	31.2%	9.39	4.32	1.8 - 3.7	0.000
Negative (Ref)	33	68.8%	0.02			

associated with the utilization of the nursing process, which found that lack of knowledge on the nursing diagnosis prevented nurses from effectively using these nursing diagnoses. This difference could be due to the scope of the study, as the current study focused on the entire nursing process whilst the comparison was focused on only nursing diagnosis.

The findings from this study revealed that the nurses and midwives did not utilize the nursing process in the ward; this was supported by the study of Agyeman-yeboah with her colleagues [13], who found nurses did not implement it in the ward because they did not really understand it. In the case of the current study, this is not only for understanding of the nursing process, but also due to negative attitudes to the application of the nursing process. The author confirmed that nurses and midwives with a positive attitude towards the nursing process are two times more likely to apply to the nursing process than those with a negative attitude. This result was dissimilar to the study of Hagos, Alemseged, Balcha, Berhe and Aregay [10]. The majority of the respondents had a positive attitude towards the nursing process. This difference could be due to a couple of reasons, including teaching and learning strategies at school, the working environment and management process and supportive supervision approaches.

## 5. Strengths and Limitation of the Study

The study was strong enough as it used tools and standardized tools. But it was limited to knowledge, attitude and enabling and reinforcing factors; the study also did not find out the relationship between sociodemographic characteristics and the independent variables of the study; knowledge and attitude.

## 6. Conclusions and Recommendation

The study concludes that the number of nurses and midwives was insufficient, hence increasing workload, which in turn affects clinical utilization of the nurs-

ing process. From the enabling and reinforcing factors, administration support, nurse/patient ratio, lack of appreciating feedback and monitoring and evaluation were the factors noted for enabling and reinforcing the implementation of the nursing process.

The majority of the study participants had inadequate knowledge of the nursing process and more than half of the study participants had negative attitudes towards the nursing process. Conclusively, knowledge and attitude are the significant factors in the clinical utilization of the nursing process. Training intervention to address knowledge gaps followed by supportive supervision and attitude transformation through VCAT were the recommendations to hospital management in facilitating effective clinical utilization among nurses and midwives working at Njombe RRH as these two interventional approaches will upgrade their knowledge and attitude to the nursing process.

### About the Authors

Evaristus P. Makota is a hospital research and training coordinator, Winfred P. Kyambile is a medical officer in-charge, Vinogelaki Seif is a nursing officer in-charge, Ashery Mwalukolo is a quality improvement focal person and Emmanuel Ulomi is a clinical service coordinator.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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### Abbreviations

RRH	Regional Referral Hospital
VCAT	Value Clarification and Attitude Transformation
AOR	Adjusted Odds Ratio
CI	Confidential Interval
REC	Research Ethic Committee