Knowledge Attitude and Practice on implementation of Nursing process at the County General Hospital, Kakamega County,Kenya

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Abstract:*Nursing process is an organized scientific framework of providing essential health care services to patients that involves orderly and systematic sequence of problem solving techniques towards effective patient care (Funnel et al, 2008).This cross-sectional study sought to assess the factors influencing implementation of nursing process in Kakamega Provincial General Hospital, Kenya.A pre-tested semi-structured self adminstered questionnaire was used to collect data from the 89 randomly selected registered nurses in the hospital.* **Results:** *Among the 89 nurses studied 19(21.3%) were aged 41-45 years. More than three quarters 77(86.5%) were female and 78(88.6%) had KRCHN as professional qualification. Slightly more than half 46(54.1%) were designated as NOIII. Having been trained in implementation of nursing process was a significant factor in the implementation of the nursing process (p=0.010). those who undergo training on implementation were almost 4 times more likely to implement nursing process in care of patients than those who did not undergo training (CI,OR:95%, 3.556; 1.312-9.636).*
The findings indicate need for training on the implementation of nursing process.This study also forms a sound foundation for the implementation of nursing process for patient care in Kakamega Provincial General Hospital Kakamega and beyond.

I.   Introduction

1:1 Background of the study

Nursing process is an organized scientific framework of providing essential health care services to patients that involves orderly and systematic sequence of problem solving techniques towards effective patient care (Funnel et al, 2008). According to Orlando (1950) as cited by Faust, (2002 nursing process is based on nursing theory. Orlando came up with the theory after observing nurses in action. One of the important aspects of this theory is that nursing process is evidenced based practice (EBP). This concept was   accepted for clinical practice by American Nurses Association (ANA). It is therefore a legal scope of nursing that provides orderly, systematic method of planning, enhances nursing efficiency by standardizing practice, provides unity of language for nursing profession and strengthens independent function of nurses. According to Funnel et al, (2008) this leads to quality patient care services.

In the year 2000 North American Nurses Association (NANDA) adopted a classification system known as Taxonomy II. It involves nursing domains and   nursing diagnoses (Kathy Quan, 2007). According to NANDA report this taxonomy led to the concept of nursing diagnosis with several dimensions. For example, the registered nurse (RN) chooses a nursing diagnosis from NANDA list which most closely describes the patients' problem related to his health status.   The continued demand for improved patient care services and improved training for nurses globally, there is an increasing need for important outcome measures with which to examine quality nursing care services. Currently, Patient assessment which is one of outcome measures capturing unique information about the provision of nursing services and looks at the patient in totality and not merely in terms of pathology. This provides an opportunity for nurses to implement evidenced based practices (EBP) to achieve quality health care services though   it requires attention, resources, skills and appropriate databases and information management system. Chin (2005) found out that nurses tended to match patient condition to designated nursing diagnosis and were unfamiliar with the whole process of care service provision.

Nursing process in Kenya is an approach that has been embraced by the ministry of medical services through the nursing council of Kenya as a regulating body in the country. Training on nursing process have been rolled out in all nursing schools and the aim is to enhance quality but individualized care services for all patients both in health facilities and communities. From the year 2008, training inclusive of   nursing process was started in all provincial hospitals in Kenya   by the office of the chief nursing officer (CNO). The training

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mainly target Registered nurses. It was then followed by nursing process implementation as a requirement for the Nursing officer in charges of hospitals towards promoting the CNO's performance contract (2008/2009).

Kakamega Provincial General Hospital was a beneficiary of this training aimed at effective implementation of nursing process in patient care. Initially nursing process implementation started with the use of manually written nursing care plans where nurses attempted to match patients' needs and the goals of the nursing process. Continuous professional education within the facility was undertaken to reach most nurses on weekly basis. Currently, nursing process implementation is done through a process where the nurses base their operations on pre- printed nursing diagnoses matched with the medical diagnosis.

However, it has been noted both during nursing rounds and supervision that nurses complain that nursing process implementation is an extra task. It is against this background that this study was conceived to assess the influence of the nurse's knowledge, attitude and experience on implementation of nursing process in Provincial General Hospital in Kakamega county of the republic of Kenya .

1:2 Problem statement

Government hospitals in Kenya are experiencing a growing demand for better health services due to emerging health complications. This is a challenge to the nurses who are supposed to provide the health care services to the patients. The government through Kenya Medical training Centre (KMTC) and Universities train nurses and also organizes in service programs for them with a hope of achieving the mission and vision of Ministry of Health, relative to implementation of nursing process. However, up to today (2011) the nurses in the government hospitals have not yet fully implemented the nursing process as expected and the factors causing or influencing the failure to achieve the implementation process are still unknown and undocumented hence the focus of this study.

1:3 Research Objectives
a) Broad Objectives
To assess knowledge Attitude and Practice (KAP) of nurses on implementation of nursing process in Kakamega Provincial General Hospital.
b) Specific Objectives
1. To establish the extent to which nurses level of knowledge influence implementation of nursing process
2. To determine the extent to which nurses attitude towards work influence implementation of nursing process
3. To investigate the extent to which nursing practice influences implementation of nursing process.

1:4 Research Questions
On the basis of the objectives of this study, the study will be further guided by the following research questions;
1. To what e extent does nurses' level of knowledge influence implementation of nursing process?
2. To what extent does the nurse's attitude towards work influence implementation of nursing process?
3. To what extent does nursing practice influences implementation of nursing process?

1:5 Justification of the study

Implementation of nursing process is aimed at improving the quality of patient care services to the rate of patients' recovery and minimize death rate in all health facilities (Kowalak& Hughes, 2002). It is against this background that nursing training programs in Kenya have been expanded or modified to include nursing process implementation. However, in spite of this, Kenyan nurses especially those in Kakamega general hospital are still far from achieving efficiency in the implementation of nursing process. It is therefore logical for one to engage in a study that seeks to investigate the factors that influence implementation of the nursing process in relation to knowledge, attitude and practice. In this study the findings will help to develop implementation program of nursing process that will improve patient care and outcomes. In turn this will lead to improved professionalism, patient/ client satisfaction, institutional and nursing image.

1:6 Definitions of terms
Nursing process: Nursing process is an organized framework of practice of nursing, that is orderly and systematic,
Knowledge:Knowledge is the capacity to acquire, retain and use information, a mixture of comprehension, experience and skill.
Practice: Practice is the application of rules and knowledge that leads to action
Attitude:Attitude refers to inclinations to react in a certain way to certain situations, or to see and interpreted events according to predispositions

Acronyms
PGH – Provincial General Hospital
CNE – Continuous Nursing Education
NANDA – North American Nursing Diagnosis Association
EBP – Evidence Based Practice
MSCN – Masters of Science in Nursing
BSCN – Bachelor of Science in Nursing
S.N.O – Senior Nursing Officer
N.O. I - Nursing Officer one
N.O. II – Nursing Officer two
N.O. III – Nursing Officer three

II. Literature Review

2:1 Introduction

Literature review involves the systematic identification, location and analysis of documents containing information related to the research problem being investigated (Mugenda and Mugenda (2003). This review focuses on previous studies conducted to determine the factors influencing implementation of nursing process that is knowledge, attitude and practice towards quality patient care. This review will be from journals, published books, web pages (intranet), reports, andworking papers.

2:2 Theoretical Background

Theory in general refers to facts which have been proven to be true. It is a set of concepts or constructs that are assumed to exist among those concepts. A theory provides the basis for establishing the hypothesis to be tested. Nursing theory by Orlandofocuses its purpose of the nursing process (alternately called deliberative nursing process or nursing process discipline) to meet patient's immediate needs. The nursing process begins with a patient behavior, either verbal or nonverbal, that indicates a need for help. This behavior results in a reaction from the nurse in which the nurse perceives a need, applies thought to the need, and produces a feeling about the need, such as concern or anxiety. The nurse then confirms her perception, thought, and feeling with the patient.

2.3 Knowledge of nurses on implementation nursing process

Knowledge is the capacity to acquire, retain and use information, a mixture of comprehension, experience and skill. In other words it is the awareness or familiarity gained by experience, a theoretical or practical understanding of a subject (The concise Oxford Dictionary, (1990).According to Muscedene et al, (2008) the synthesis of large bodies of knowledge into clinical practice guidelines is one method of improving accessibility and utility of medical literature by health care professionals. Knowledge is very important, since the nurse has to understand how to perform the nursing process, come up with the right diagnosis and plan accordingly.

2:4 Attitude of nurses on implementation of nursing process

Attitude refers to inclinations to react in a certain way to certain situations, or to see and interpreted events according to predispositions, or organize opinions into coherent and interrelated structures. Values are also related to attitude. In regard to attitude Cheevakasemsook et al, 2006 found that nursing process were used by some nurses as their professional identity, considered beneficial to the as their daily routine and at the same time he noticed the nurses regarded nursing process as being unfriendly since it was rigidly formulated and filled in a particular way. Nursing process was started in Namibia in 1985 and the research findings in the year 2008 revealed that nursing process had been utilized with difficulty and ineffectively. Findings also indicated that registered nurses belief systems and attitude should be reframed and they should approach Nursing process differently.

2:5 Practice of nurses on implementation of nursing process

Practice is the application of rules and knowledge that leads to action. Good practice is an art that is linked to the progress of knowledge and technology and is executed in an ethical manner (Concise Oxford Dictionary, 1990)

According to Martha Rogers (nurse theorist) using nursing process makes nurses recognize health problems, anticipate complications and initiate actions to ensure timely treatment. Little is known, however few studies done to establish the role of nurses in patient care during and after hospitalization. This showed that most of the records are concerned with structure and outcome instead of the process of care (Needleman et al, 2007). The work of NANDA has increased the growth in standardized language in nursing especially in the

development of expressions used to clearly define the concerns of patients. Implementation of NANDA has been associated with improved quality of nursing documentation (Miller-Staub et al, (2006).

2:6 Conceptualization
Conceptualization involves determination and explanation of the variables that will be measured in order to determine the factors influencing implementation of nursing process. This will determine on how Registered nurses implement nursing process so as to provide quality patient care.

2:6:1 Conceptual Framework
Dependent variableIndependent variable
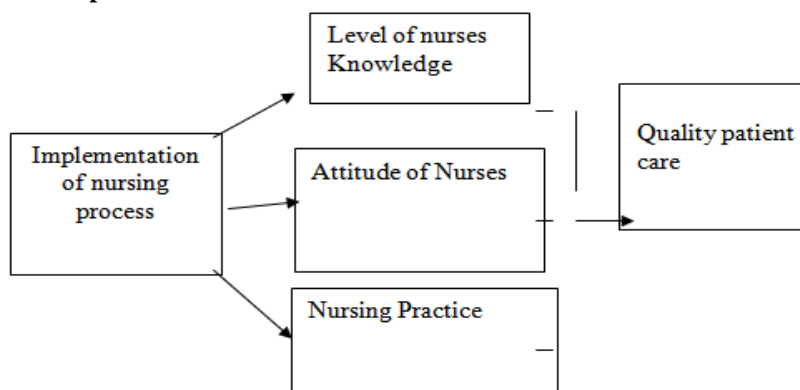
Source; Author (2011)

2:7 Summary   .
The triad of Knowledge, Attitude and Practice (KAP) in combination governs all aspects of life in human societies and all three pillars together make up dynamic system of life. Studies did indicate that nurses still match nursing diagnosis with the medical diagnosis. However, very little is known on the implementation of nursing process in the region

III. Research Methodology
3:1 **Research Design**
Cross-sectional descriptive design was adopted in this study. This is because according to Mugenda& Mugenda (2003) this design facilitates collection of data from   widespread population in a study. In this case the nurses who were respondents were spread in different hospital departments. The design is also suitable in studies like this one where the researcher only wishes to establish and describe the relationship between the variables in the study.

3.2 Research Area and study population
The study was conducted in Provincial General Hospital located in Kakamega town within the Kakamega County of the republic of Kenya. The study populations were Registered nurses working in PGH Kakamega. (N= 115)

3:3 Sampling Strategies
3.3.1 Sampling methods
Sampling is a process of selecting a portion of a population to represent the total population therefore; random sampling was used since the target Population in this study was finite using unique numbers assigned to them.
3.3.2 Sample Size
The sample was 89 subjects as based on the formula below. The estimation of population size was 115.
The formula is given below (Reid NG, Boore JRP (1991)).

$$n = \frac{N}{[(1 + N(e)^2]}$$

Where n = sample size, N = population size and e = accepted level of error taking alpha as 0.05.
 By substitution 115 in the formula, we have sample size of 89

3.3.3 Inclusion/Exclusion criteria
Inclusion criteria included:
Registered nurses working in all departments within the inpatient care, they include nurses with Bachelor degree and diploma in nursing.
Exclusion criteria:
Registered nurses on maternity and annual leave are excludedEnrolled community nurses who were not expected to have skills and in depth knowledge based on implementation of nursing process.

3.4 Data schedule
3.4.1 Data Collection tools
Semi-structured questionnaires were used to capture events that had already occurred relative to implementation of nursing process and options given to give extra information that was not covered relative to the implementation of the nursing process at the time of the study.
3.4.2 Data Collection procedures
The semi-structured questionnaires wereself-administered by the subjects.

3.5 Validity and Reliability
Reliability of the instruments was established through a pilot study undertaken in the nearby New Nyanza Provincial Hospital, and data collection instrument was duly adjusted to meet the appropriate standards as per the lecturers' recommendations before it was used in the main study.
Validity of the data collection which refers to the ability of the instruments to capture targeted information was established or updated with the help of peers that were currently involved in similar research operations and lecturers who were experts.

3:6 Data management and analysis
The data collected in this study was organized, coded and entered in to a computerized database designed in Epidata, data entry software. It was exported to SPSS (Statistical package for social sciences) V.16 form analysis. Categorical data will be presented as frequency (percentage (%)). The implementation of nursing process was divided into a binary outcome, i.e., Yes and No. Chi-square test was used to check for relationship between categorical variables and implementation of nursing process Logistic regression was employed to identify significant predictors of implementation of nursing process adjusting for confounders. Results were considered significant at 95% confidence level.

3:7 Ethical Considerations
Ethics was upheld at every stage of the research by observing all the protocol at stage and point. This started with acquisition of an introductory letter from the department of health sciences to the management of Kakamega Provincial General Hospital. On the basis of the letter, the researcher proceeded to meet the Hospital management to book an opportunity for data collection from the registered nurses in the various departments. Informed consent was acquired from the participants.
Ethics was upheld further by ensuring that every information was treated with maximum confidentiality and only used for academic purposes.

3:8 Limitations of the study
The time allocated for the study was short.Thistherefore did not allow enough data collection from all nurses considering the type of duties they perform. On the other hand respondents (nurses) may not have been genuine in their responses on attitude issues

IV. Results
Among the 89 nurses that responded to the questionnaire, 19 (21.3%) were aged 41-45 years. More than three quarters 77 (86.5%) were female and 78(88.6%) had KRCHN as professional qualification. Slightly more than half 46(54.1%) were designated as NOIII as in table1.

Table 1: Demographic data

Characteristic	N (%)
Age	
<30	17(19.1)
30-35	18(20.2)
36-40	17(19.1)
41-45	19(21.3)
46-50	14(15.7)
>50	4(4.5)

Gender	
Male	12(13.5)
Female	77(86.5)
Professional qualification	
BSCN	7(8.0)
KRCHN	78(88.6)
KRN	1(1.1)
KRN/RM	2(2.2)
Designation	
SNO	7(8.2)
NO1	17(20)
NO11	15(17.6)
NO111	46(54.1)

Implementation of the Nursing process

Among the 89 nurses studied, only 29(33%) were using nursing approach for patient management to all patients (figure 5).
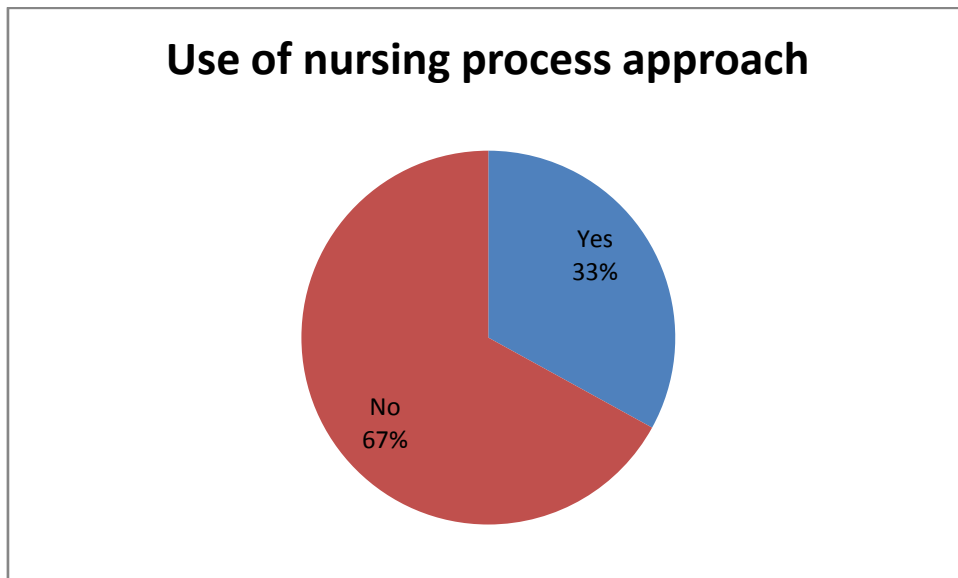

Fig 5: Using Nursing Process approach for patient management

Among those who didn't use, only 1(3.4%) reported to be busy.

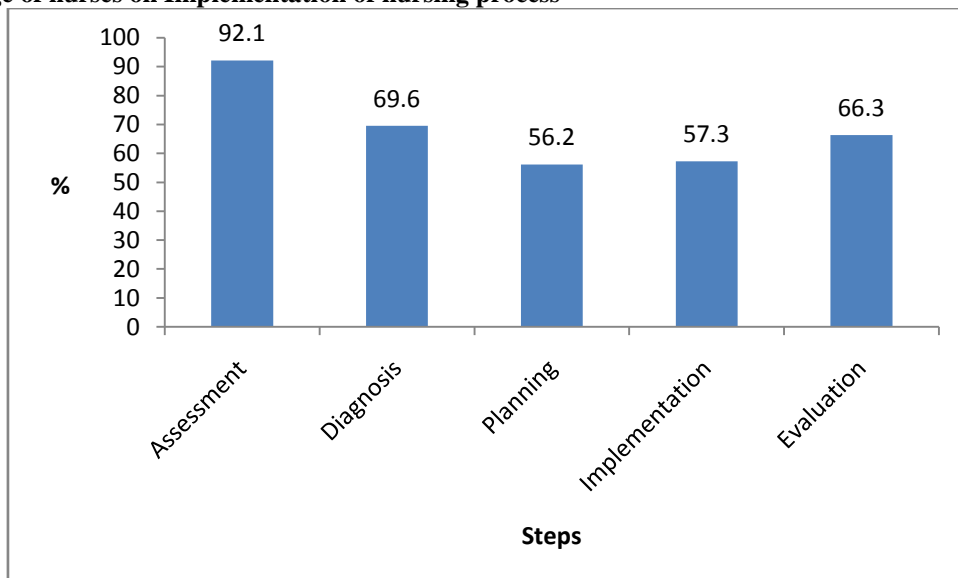**Knowledge of nurses on Implementation of nursing process**

Fig 6: Main steps of nursing process

Majority of the respondents 82(92.1%) identified assessment as the first step in the nursing process while 62(69.6%) identified diagnosis as the second stage as indicated in figure 6.Among the respondents 48(55.2%) had undergone training on implementation of nursing process and 57(64.8%) had attended continuous Nurse Education (CNE)/CME on implementation of nursing process by the nursing council. For the 57 that had attended CNE, the mean duration of attendance was 1.9±1.0

Table 1: Statements on implementation nursing process

Statement	High	low	None
My understanding of the nursing process	69(78.4)	19(21.6)	-
Able to interpret data and come up with patient needs	73(82.9)	15(17.1)	-
Ability to formulate nursing diagnosis in 3 parts	62(70.4)	26(29.6)	-
Utilizing critical thinking by applying standards and synthesis of data	56(64)	29(32.6)	3(3.4)

More than half of the respondents 69(78.4%) had a high understanding of the nursing process, 73(82.9%) were highly able to interpret data and come up with patient needs, 62(70.4%) had high ability to formulate nursing diagnosis in 3 parts while 56(64%) highly utilize critical thinking by applying standards and synthesis of data as indicated in table 1

Table 2: Attitude of nurses on implementation of nursing process

Type of interventions undertaken	Nurse initiated	Physician/doctor initiated	collaboratively initiated
Pain management (n=79)	29(36.7)	30(38)	20(25.3)
Counseling (n=79)	46(58.2)	19(24.1)	14(17.7)
Feeding options (n=80)	38(47.5)	27(33.8)	15(18.8)

Of the respondents 29(36.7%) reported that pain management should be nurse initiated. More than half 46(58.2%) that counseling should be nurse initiated while 38(47.5%) that feeding option be nurse initiated as indicated in table 2.

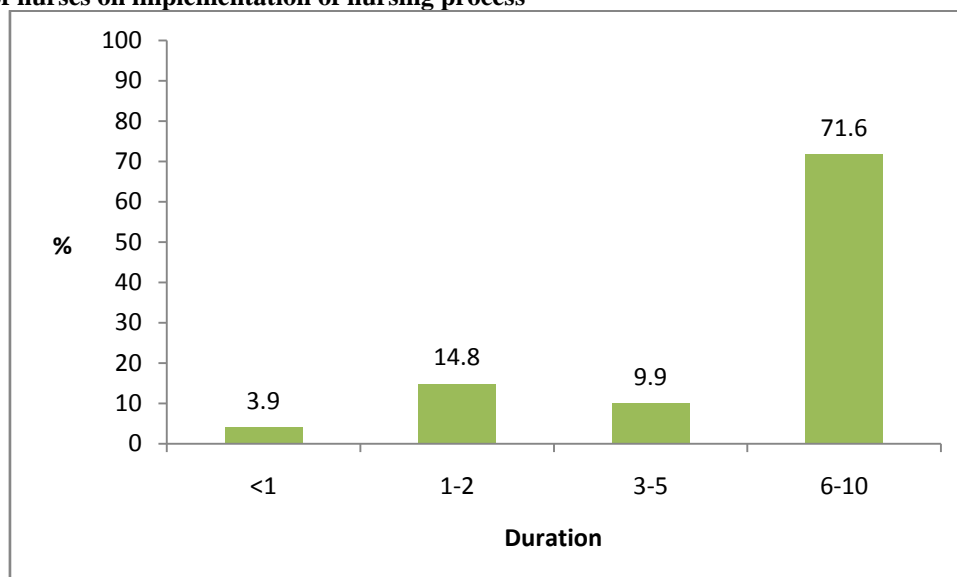**Practice of nurses on implementation of nursing process**

Fig 7: Duration in service

More than half of the respondents 45(55.6%) had been in service for between 6 and 10 years. Only 3(3.9%) had been in service for less than 1 year as indicated in figure 7.
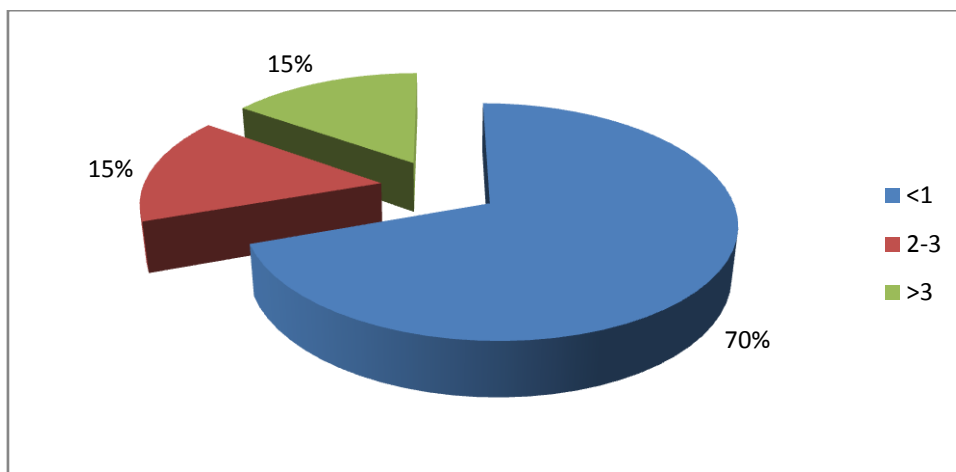
Fig 8: Duration practiced using nursing process

Majority of the respondents 55(70%) had been practicing using nursing process for only less than 1 year as shown in figure 8

Majority of the respondents 80 (97.6%) thought implementation of nursing process improves patient care and 69(84.1%) reported that they needed training on implementation of nursing process.

Table 3: Factors affecting implementation of nursing process

Variable	Implementing		chi-square	p-value
	Yes	No		
Age				
<=35	15	19	2.36	**0.125**
>35	14	40		
Gender				
Male	7	5	3.102	**0.105**
Female	21	45		
Profession				
BSCN	2	5	0.08	**1.000**
KRCHN	27	53		
Designation				
SNO	2	5		
NO1	5	12	1.313	**0.726**
NO11	4	11		
NO111	18	27		
Trained	21	27	6.563	**0.010**
Attended CNE	17	40	0.717	**0.397**
Years in service				
<=5	11	12	3.29	**0.069**
>5	14	44		
Duration practicing nursing process				
<1year	17	38	0.045	
2 -3 years	4	8		
>3 years	4	8		**0.978**
Nursing process improves patient care	26	54	0.952	**1.000**
Need training on implementation	22	47	0.006	**1.000**

As indicated in table 3, having been trained in implementation of nursing process was a significant factor in the implementation of the nursing process (p=0.010). those who undergo training on implementation were almost 4 times more likely to implement nursing process in care of patients than those who did not undergo training (OR:95%CI, 3.556; 1.312-9.636).

Checklist
Check list (Records) on implementation of nursing process at the provincial general hospital Kakamega

| S/NO	DEPARTMENT	NURSING CARE PLAN PRESENT(YES)	NURSING CARE PLAN ABSENT (NO)	TOTAL
	OBS./GYNAE			
1.	ANW	10	18	28
2.	PNW	24	21	43
3.	NURSRY	01	06	07
4.	WD 8 (GYNAE)	01	10	11
	TOTALS	**36**	**55**	**91**
	MEDICAL DEPARTMENT			
5.	MALE WD.1	02	12	14
6.	FEMALE WD. 3	02	18	20
7.	PSYCHIATIC	01	04	05
8.	AMENITYA-MEDICAL	01	07	08
9.	PAEDIATRIC WD.5A	02	38	40
	SURGICAL EPARTMENT			
	TOTALS	**08**	**79**	**87**
10.	ORTHOPAEDIC	03	02	05
11.	MALE SURGICAL	02	10	12
12.	FEMALE SURGICAL	01	04	05
13.	PAEDIATRIC SURGICAL	02	03	05
14.	AMENITY- B SURGICAL	0	04	04
	TOTALS	**08**	**23**	**31**
	GRAND TOTAL	**52 (24.8%)**	**157 (75.1%)**	**209 (100%)**
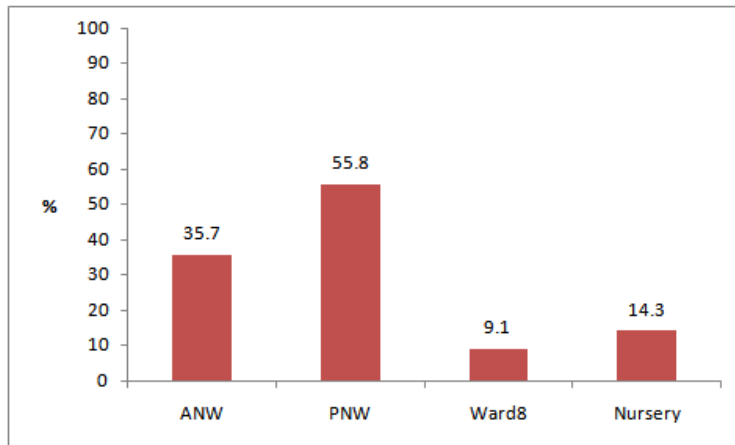
Fig 9: Percentage files with documentation of nursing process
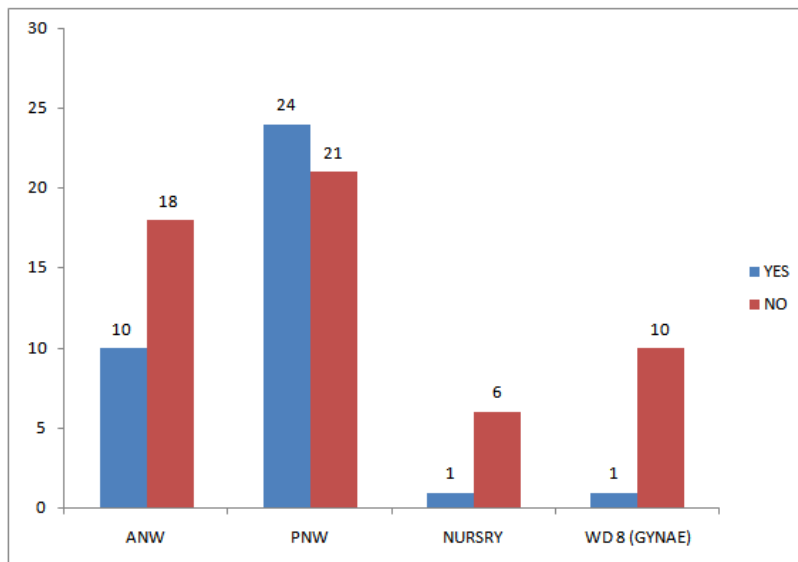
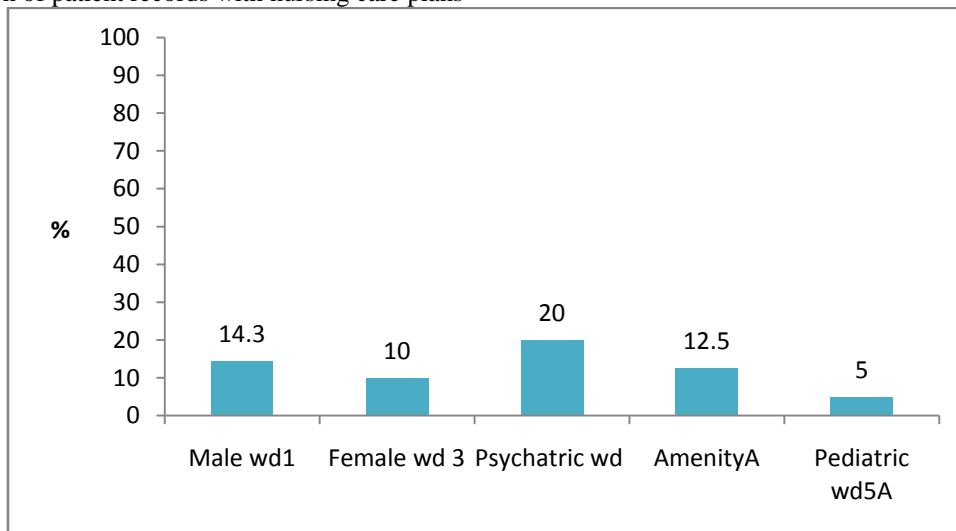Comparison of patient records with nursing care plans

Fig 10: Percentage files with documentation of nursing process (Medical department)
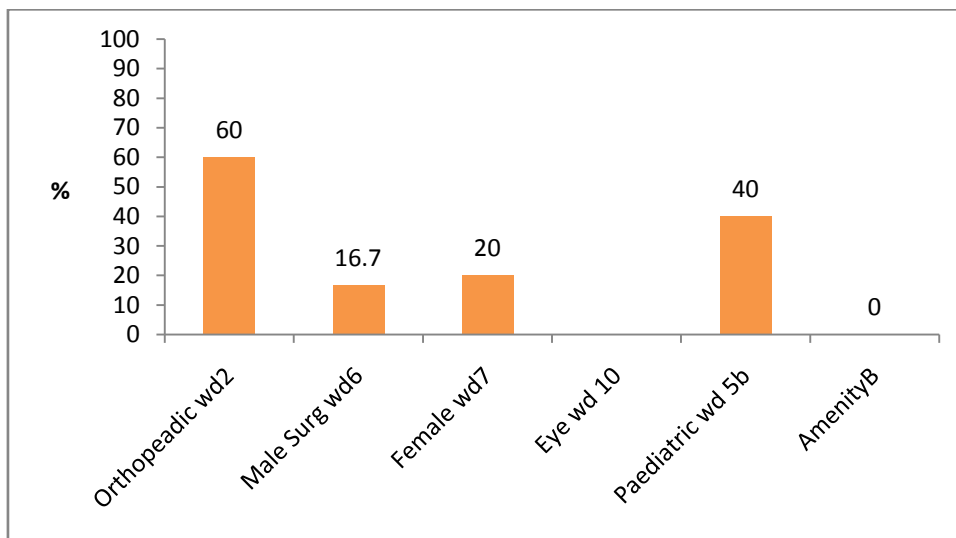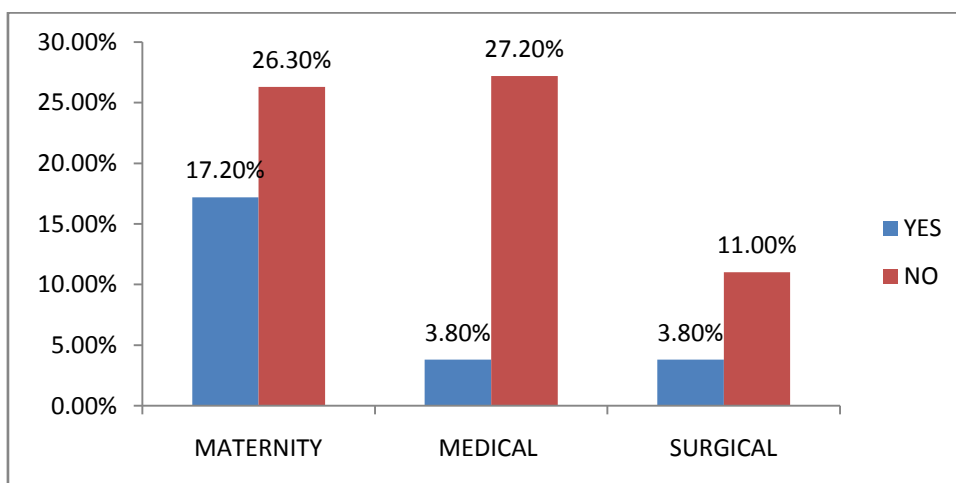

Fig 11: Fig 10: Percentage files with documentation of nursing process (Medical department)

V. Discussion

The purpose of the study was to determine the knowledge, attitude, and practice of nurses on implementation of nursing process. The data suggest that majority of the nurses were able to identify the five main steps of nursing process. However, 97% thought implementation of nursing process improves patient care and 84 % reported that they needed training on the same. For the nurses who have undergone nursing process training, 64.8% went through CNE and 55.2% went through training. From the study more than half 78.4% had an understanding of the nursing process, while 82.9% were able to interpret data and come up with patients needs.

Looking on the attitude of nurses on implementation of nursing process less than half, that is 36.7% and 47.5% said that pain management and food options were nurse initiated. However, data also reflected that counseling was mainly initiated by nurses.

Practice of nurses on nursing process implementation. In Senegal, (1989) research indicated that nursing process was not done effectively and nurses felt it was too much work for nurses and appeared to the like duplicating assessment done by Doctors,
(Deborah J. 1989).

Majority of the respondents 59 (70%) had practiced nursing process for only less than one year. To ascertain its usefulness 80 (97.6%) thought implementation of nursing process improves patient and 69 (84.1%) reported that they needed training on nursing process.

As indicated in table 3, having been trained in implementation of nursing process was a significant factor in the implementation of the nursing process ($p=0.010$). those who undergo training on implementation were almost 4 times more likely to implement nursing process in care of patients than those who did not undergo training (OR:95%CI, 3.556; 1.312-9.636).

VI. Conclusion

Evidenced based nursing practice aims at improving nursing care services to the patients by promoting good health, preventing illness, and restoring health cost effectively.While many nurses seem not to be sufficiently updated on the implementation of nursing process, there is a strong need for training and regular continuing nursing education (CNE) programs for all nurses in Hospitals.

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