

PERCEIVED INFLUENCE OF ADVANCEMENT OF TECHNOLOGY ON THE IMPLEMENTATION OF NURSING PROCESS AMONG NURSES AT TENWEK HOSPITAL, BOMET COUNTY.

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**Abstract:-**

**Objectives;** to determine perceived influence of advancement of technology on the implementation of the nursing process (NP) among nurses at Tenwek Hospital.

**Design:** This was a cross sectional descriptive study which is both qualitative and quantitative in nature.

**Setting;** The stratified departments at Tenwek hospital which is not a public institution.

**Subjects/participants;** the population of interest to the study consisted of the nurses working at Tenwek Hospital. These are the health workers who are employed by Tenwek Hospital Board. They were chosen since they are the group that is directly involved on implementation of NP at the hospital and are aware of the situation in the hospital. Data was collected between 13<sup>th</sup> May 2014 to 20<sup>th</sup> May 2014.

**Main outcome measure;** influence of technological advancement on implementation of NP, Nurse- Perception on Technological advancement on implementation of nursing process.

**Results:** Findings on technological advancement point out that majority 66.3 % (n=59) of respondents agreed that technology used in monitoring NP are available and 61.8 % (n=55) agreed that use of technology have resulted in better time management. Most 58.4 % (n= 52) respondents disagrees with the training on the use of technological, 39.3%(44) disagrees that repair and maintenance of NP technical appliances are fast and efficient On communication between the nurses and administration on technical appliances, most 51.7 % (n=46) of the responds disagrees that there nurses are consulted on the preferred choice of technology to be utilised. 32.6% (n=29) participants indicated that they prefer to have digital thermometers and blood-pressure machines as they will save time and improve efficiency of care provided. Majority 67% (n=60) responded indicated that there was adequate technological appliances that plays a role in data analysis, data validation and data storage.

**Conclusion:** Findings on advancement of technology at Tenwek Hospital, there was agreement that technology used in monitoring Nursing process are available but no training and communication on the use of the technology are carried out to equip the Nurses with knowledge on the use of technology, This indicates a huge gap that requires both policy makers and the hospital administrators to address urgently.

**Key words:** nursing process, implementation, advancement of technology

## INTRODUCTION;

NP functions as an important part of the multidisciplinary team, speaking to the physicians and nurses for the delivery of quality nursing care. It is practised within a systematic, goal-directed framework and a reasonable assurance that the individual's course along the health/illness continuum is predictable and progressive. An oversight or omission in any of the steps of NP may lead to less than optimal nursing care though in most cases there is poor implementation of the NP in the country as indicated by (MoH, 2009). At Tenwek Hospital, NP is implemented by nursing student as a learning objective but noted not implemented by nurses. The researcher made the observation from over a period of 10 years from 1999 when doing the diploma and degree studies consecutively to date. This was confirmed with observations of 80 charts of patients admitted to both medical and surgical departments, maternity and baby unit.

## Materials and Methods

**Study design:** This was a cross sectional descriptive study which is both qualitative and quantitative in nature **Cases; Participants/respondents;** are all nurses who were on duty at the time of study as from 13th to 15th May 2014 and were willing to participate without coercion.

**Controls:** Various departments were taken as the strata and from each strata, a sample proportional to the population in the strata was selected according to scientific Fishers formula which was employed for convenience and accuracy purposes. The distribution of the 98 nurses from the 8 departments out of study population of 150 nurses was selected as recommended by Yamane (1967).

**Procedure of data collection;** *Procedure of data collection;* A stratified random sampling method was used give equal chance to the selected respondents to participate in the study.

**Participants' consent;** the study participants were helped by the researcher to go through the study tool which was a structured selfadministered questionnaire and informed that they were free to stop even at the middle of filling questionnaire. They were informed about the general purpose of the study and their rights to accept participation or not and also were informed of their rights to withdraw while in the process of the study.

**Data analysis;** Data was analyzed through coding against each and every objective of the study depending on the responses given were coded using the SPSS software to provide ease of analysis, minimized margin of error, and provide accuracy during analysis. These are ways to help transform a mass of raw data into tables and charts, with frequency distribution and percentages so as to make sense of the data.

**Ethical consideration:** The researcher had responsibility to protect the human rights of the study participants as prescribed in research ethics codes and guidelines. Approval from Kenya Methodist University Institutional Research Board was obtained and presented to Tenwek Hospital institution seeking for permission which was granted to conduct the study. The questionnaire also provided informed consent, anonymity and confidentiality to the participant before participating in the study voluntary.

## Results;

### Perceived Technological advancement on implementation of NP

Responses	Strongly disagree		Disagree		Agree		Strongly Agree	
	f	%	f	%	f	%	f	%
Technical appliances used by nurses in monitoring and diagnosing patients are adequate and up-to-date	2	2.2	12	13.5	59	66.3	16	18.0
Nurses are trained to use new technical appliances adopted in nursing processes at the hospital	13	14.6	52	58.4	21	23.6	3	3.4
Tenwek's administration consults nurses on the preferred choice of technical appliances to be used in nursing processes	10	11.3	46	51.7	31	34.8	2	2.2
The hospitals administration effectively communicates to nurses any changes in technical appliances to be used	13	14.6	22	24.7	39	43.8	15	16.9
Repair and maintenance of NP technical appliances as fast and efficient	12	13.5	35	39.3	38	42.7	4	4.5
Use of technological appliances in the hospital have resulted in better time management of nursing activities	7	7.2	13	20.6	55	61.8	14	15.4
Use of technological appliances in the NP has significantly reduced the work load of nurses in the hospital	11	12.4	34	38.1	37	41.6	7	7.9

Data obtained pointed out that majority 66.3 % (n=59) of respondents agreed that technology used in monitoring NP are available and 61.8 % (n=55) agreed that use of technology have resulted in better time management. Most 58.4 % (n= 52) respondents disagrees with the training on the use of technological. On communication between the nurses and administration on technical appliances, most 51.7 % (n=46) of the responds disagrees that there nurses are consulted on

the preferred choice of technology to be utilized. 39.3 % ( 44) disagrees that repair and maintenance of NP technical appliances are fast and efficient

**Nurse- Perception on Technological advancement**

In thematic response, 32.6% (n=29) participants indicated that they prefer to have digital thermometers and blood-pressure machines as they will save time and improve efficiency of care provided. Majority 67% (n=60) responded indicated that there was adequate technological appliances that plays a role in data analysis, data validation and data storage.

**Relationship between the use of Technology and Implementation of the NP**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.606 <sup>a</sup>	6	.024
Likelihood Ratio	14.766	6	.022
Linear-by-Linear Association	9.339	1	.002
N of Valid Cases	83		

On testing the hypothesis that ‘ Technology has no effect on the implementation of NP at Tenwek Hospital’ at 95% significance level with 6 degrees of freedom, Pearson chi-square  $\chi(1) = 13.606, p = 0.024$  shows that, there is a significant relationship between implementation of NP and the use of technology in the nursing practice. Thus we reject the null hypothesis and conclude that the use of technology in the nursing practice has significant influence on the implementation of the NP.

**Discussion:** Findings on advancement of technology at Tenwek Hospital indicated that there was agreement that technology used in monitoring NP are available. However, the gap identified is there is no training and communication on the use of technology to equip the Nurse with knowledge on the use of technology. These findings agree with Ramundo (2012) and Goyatá, *et al.*, (2012) that technology may enable satisfaction of patients’ and it is therefore important to incorporate computer-based techniques and technologies into undergraduate nursing studies that give room for more creative and interactive teaching.

**Recommendation:**

In terms of advancement of technology, the researcher recommends that the Nursing council of Kenya should avail mandatory requirement technology training on continuing nursing education before issuing the practice license within a one year period. Nursing Administration department at Tenwek Hospital should as well ensure that the technological network infrastructure is adequately maintained, repair of appliances done efficiently and Nurses are trained and motivated on the use of the technological appliances to facilitate the initiation of NP within six months. The research also recommends Tenwek school of Nursing Administration should develop a tailor made program that will enable nurses to learn technology services with their students as this will be cost effective and motivating for Tenwek Nurses within one year period.

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8 April, 2014

MSN-3-2102/2012

Kenya Methodist University

Dear Sir/ Madam,

**SUBJECT: ETHICAL CLEARANCE OF A MASTER'S RESEARCH PROJECT**

Your request for ethical clearance of your research project titled "The Influence of Implementing the Nursing Process in the Intensive Care Unit of the Kenyatta National Hospital, Boma County -Kenya" has been reviewed and approved by the Research Ethics Committee of Kenya Methodist University. The committee has granted you the necessary ethical clearance for the conduct of your project proposal. The attached document is the ethical clearance form (ECF) for your project.

Thank You,



Dr. Wanjau

Head, REEC

Dean, RAO

