

**ADDIS ABABA UNIVERSITY SCHOOL OF PUBLIC
HEALTH**

**MASTER OF HEALTH CARE AND HOSPITAL
ADMINISTRATION**

**IMPROVING THE IMPLEMENTATION OF NURSING CARE
PROCESS IN MEKELLE HOSPITAL**

**CAPSTONE PROJECT THESIS SUBMITTED TO GRADUATE SCHOOL
OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF
DEGREE OF MASTERS IN HEALTH CARE AND HOSPITAL
ADMINISTRATION**

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To expand my appreciation to ezedine adem, atsede techane, hailekiros embaye, bicha mulugeta

To all my staff for their undeserved support

To my families

Acronyms

ADPIE Assessment, Diagnosis, Planning, Implementation and Evaluation of care

EHRIG Ethiopia Hospitals Reform Implementation Guide

FGD Focus Group Discussion

MR Medical Record

MRN Medical Record Number

NGOs Non-Governmental Organizations

PI Principal Investigator

SMART Specific Measurable Achievable Realistic and Time bound

SMT Senior Management Team

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Abstract

Background: Despite the important role Nursing Process plays for the betterment of the health care, its implementation status is far below expected, particularly in developing countries. Similarly, the baseline assessment in this study showed that the implementation of Nursing Care Process in Mekelle hospital is poor. Thus, in light of the national and regional efforts to improve health care delivery, it is critically important to improve the implementation of the Nursing Process in Mekelle Hospital.

Objectives: To improve the implementation of Nursing Care Process from 37% to 60 in Medical and Surgical ward of Mekelle Hospital, by the end of September 2013

Methodology: A facility based pre- post interventional study was conducted from December to July, 2013 in Mekelle Hospital, Tigray Ethiopia. The interventions included training of ward nurses; strengthening internal supportive supervision and providing nursing process forms. A total of 97 Medical Records were reviewed (48 at baseline and 49 at the end of the study) to compare the Nursing Process implementation status pre and post-intervention periods. The proportion of patients with complete documentation of the Nursing Process forms and Chi – square test was calculated to test the difference in the outcome of interest between the pre – and post –intervention periods.

Result: The percentage of patient cards with complete Nursing Care Process increased from 37.5% in baseline to 63.3% after intervention. This change was statistically significant at ($df = 6.44$, $P = 0.011$). Similarly, the implementation of all components of the Nursing Process has increased: Nursing Admission Assessment (from 58.3% to 87.8,/ $P = 0.001$), Nursing Diagnosis (from 66.7% to 93.9%, $P = 0.001$); Nursing Care Plan (from 68.8% to 91.8% / $P = 0.004$); Nursing Implementation (from 64.6% to 91.8% / $P = 0.001$) and Nursing Evaluation (from 45.8% to 65.3% / $P = 0.054$), with all changes showing statistically significant at $P < 0.05$, except Nursing Evaluation.

Conclusion and Recommendations: Continuous internal Supportive Supervision of Nurses followed by on job training continuous flow of related forms can improve the implementation of the Nursing Process. Mekelle hospital managers should consider strengthening the internal Supportive Supervision to improve the Nursing Process in their health facility.

I. Introduction

1. Organizational Description of Mekelle Hospital

Mekelle hospital is a general hospital with catchment area population of around 1 million and it is one of the most busy and crowded hospitals in the region. Mekelle hospital is a home and choice of thousands of HIV patients, because it provides services free of charges. The profile of Mekelle hospital is shown in Table 1 below.

Table 1 Profile of Mekelle Hospital, Tigray, Ethiopia. January, 2013.

Number of beds	180
Number of physicians	15
Number of nurses	120
Number of paramedics staff	43
Number of supportive staff	124
Number of outpatient visits per year	180,000
Number of inpatient services per year	4,274
Average Length of Stay	7 days
Number of delivery per year	3,000

2. Problem Statement

Implementation of the Nursing Process allows nurses for the delivery of quality nursing care within a systematic, goal-directed framework. An oversight or omission in any of the steps of this process may lead to less than optimal nursing care [1]. The Nursing Process can also be used as a means of organizing work, as an educational tool to help achieve patient centered nursing and as a philosophy to help nursing attain professional status (it is uses as capacity building for them) by offering an alternative to the medical model [2].

Cognizant of its importance in improving the quality of health care, the Ethiopia hospitals reform implementation guide line sets the Nursing Process as one of the responsibilities of the Nurses. However, despite the important role nurses have for the betterment of the health care, their

independent work – the Nursing Process do not get enough emphasis as it is written in many books [3].

Similarly, the implementation of Nursing Care Process in Mekelle hospital is poor. The baseline assessment conducted February 2013 in the hospital shows that only 37% of the patients received a complete Nursing Care Process. The aim of this project is thus, to improve the implementation of Nursing Process in Mekelle Hospital, Tigray, Ethiopia.

Poor implementation of the Nursing Process can result in poor quality of nursing care, disorganization of the health service, conflicting roles among nurses, medication error, poor diseases prognosis, dissatisfaction of customers with the care provided, and increased mortality. These problems are manageable if a nurse can properly implement nursing process [4]. This project aimed to improve the implementation the Nursing Process in Mekelle Hospital by addressing the major bottlenecks for implementation. Thus, it is expected that the findings of the project will play its role in improving the overall quality of care and in decreasing the poor outcomes of hospital services.

Strength of the project

- Almost all nurses accepted the implementation of nursing care process
- The Nurses to develop better understanding and performance

3. Objectives

3.1 General Objective:-

- To increase the proportion of patients who received a complete Nursing Care Process from 37.5% to 60% in surgical and medical wards of Mekelle Hospital, by the end of September 2013

3.2 Specific objective

- To increase the proportion of patients who received a complete Nursing Care Process from 50% to 60% in Surgical Ward, by the end of September 2013
- To increase the proportion of patients who received a complete Nursing Care Process from 20% to 60% in Medical Ward, by the end of September 2013

4. Root Cause Analysis

4.1 Collection of information on the causes of the problem

To identify the possible causes of the problem, Focus Group Discussion (FGD) was held with selected staff from hospital wards, all ward head Nurses and the Senior Management Team (SMT). A total of 3 FGDs were held totaling 34 employees. The results of the FGD are presented using Fishbone analysis in Figure 1 below. To quantify and prioritize the causes of the problem, all the participants were asked to list the most important causes of the problem (See Figure 2).

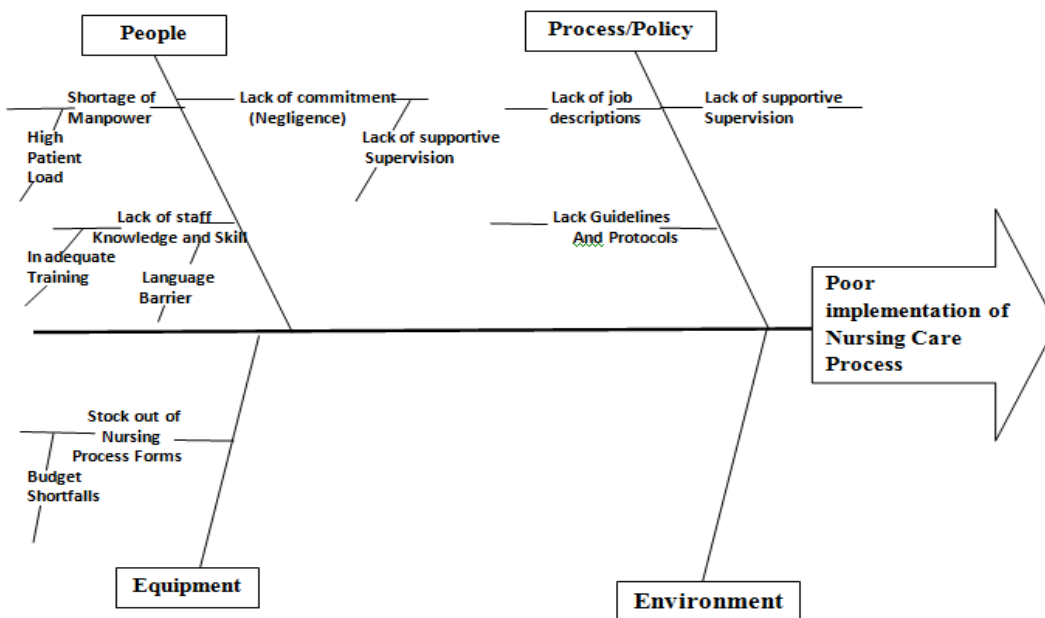


Figure 1 Fishbone Analysis showing the result of FGD held to identify the possible causes of poor Nursing Process implementation in Mekelle Hospital, Tigray, Ethiopia. February, 2013.

To identify the magnitude using Pareto- analysis method

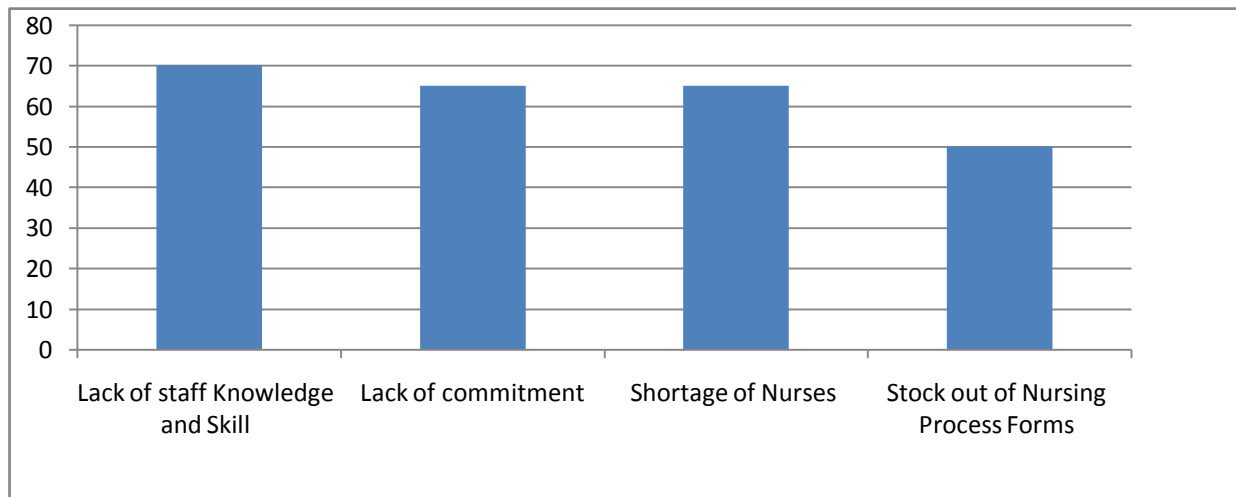


Figure 2 the magnitude of causes of poor Nursing Process implementation in Mekelle Hospital, Tigray, Ethiopia. January, 2013.

5. Literature review

5.1 Introduction to Nursing Process

The nursing process is an organized, systematic and holistic approach to nursing through which nursing care provision is organized to achieve patient centered care [3]. The Nursing Process can be used as a form of documentation, a means of organizing work, that is, patient allocation or primary nursing, an educational tool to help achieve patient centered nursing. The nursing process involves Assessment, Diagnosis, Planning, Implementation and Evaluation of care (ADPIE). This should be done in collaboration with the patient and/or caregiver(s) [2].

The first step of the Nursing Process is assessment, which includes the collection, organization, validation, and documentation of the data. It involves taking vital signs, performing a head to toe assessment, listening to the patient's comments and questions about his health status, observing his reactions and interactions with others and is a systematic guide for data assessment that permits the identification of nursing problems [5, 6, 7].

The second step of the Nursing Process is Nursing Diagnosis. It includes analyzing the data, identifying health problems, health risks, and the strengths the patient has, and formulating the

nursing diagnoses [6, 7]. The Nursing Diagnosis identifies the needs that require care and determines the degree of dependence on nursing care.

The third step, the Nursing Plan, involves determining the overall nursing care that should be established based on the diagnosis. It also includes prioritizing the patient's problems and diagnoses, formulating goals and desired outcomes. This will be used to select nursing interventions to enable the patient to meet those goals [6, 7].

The fourth step of the Nursing Process is Nursing Implementation. It includes the beginning and completion of actions required to achieve results, which involves the implementation and recordation of the interventions performed. It also includes reassessing the client, determining the nurse's need for assistance, implementing the nursing orders and documentation of nursing actions [6, 7].

The final step in the Nursing Process is Nursing Evaluation. At this stage, it is possible to assess the human response to the nursing care provided [7]. Evaluation includes collecting data related to the desired outcomes, comparing the data to see if the patient's goals or outcomes desired were met, relating the nursing actions to the goals and outcomes, evaluating the status of the problem, and continuing, modifying or terminating the patient care plan the human response. Thus, it includes not only analyzing the success of the goals and interventions, but examining the need for adjustments and changes as well [8].

5.2 Nursing Process implementation Status

Despite the importance of the Nursing Process, various literatures showed that there exist different challenges in its implementation. A study developed in a Brazilian private hospital showed that the phases of the nursing process were not integrated and that there was a lack of coherence in the prescribed actions related to patient health conditions. They additionally asserted that a lack of preparedness and a lack of a holistic view have hindered the perception and record of the essential care provided [8].

A study conducted in Europe to test the establishment of a validated model of nursing records aimed to promote individual care. The results showed limitations of the nursing process

conducted according to the model, particularly in the identification of problems presented by the patients and, consequently, diagnosis and the possible intervention procedures [9].

An investigation of the steps of the nursing process actually implemented in the routine of a university hospital showed that all phases were performed however; problems were identified in the nursing process, involving recording the history and implementing nursing prescription. The evolution of expected results, in particular, was not adequately recorded [10].

A study done to investigate the phases of the nursing process performed in the care practice of a university hospital in Brazil, the authors identified problems in the implementation of all stages. However, the existence of failures was shown among the nursing diagnoses, implementation as well as recording the evolution of the expected results [11].

Similar results were also shown in a study published in 2006 during the implementation of the nursing diagnosis, in which the research subjects indicated difficulties in developing the nursing process at all stages, and the need for changes to speed up the work process and optimize the quality of actions in care and education [12].

In a study conducted in selected governmental hospitals of Addis Ababa, Ethiopia, showed that one hundred (52.1%) respondents implemented nursing process while 92(47.9%) did not implemented nursing process. Seventy nine (41.1%) respondents have had the ability to consider emotional, physical, and personal care, including meeting the need for comfort, nutrition, personal hygiene and enabling the person to maintain the activities necessary for daily life; (using nursing skills, intervention/activities to provide optimum care). Eighty one (42.2%) respondents were able to respond to patient needs by planning, delivering and evaluating appropriate and individualized programs of care working in partnership with the patient, their care givers, family and other health workers [13].

Overall, the above literatures show the existence difficulties in the implementing all stages of the Nursing Process and highlights the need for changes to speed up the work process and optimize the quality of actions in care and education.

5.3 Factors associated with implementation of Nursing Process

Nursing process implementation is affected by different factors. Among those workload (nurse to patient ratio), lack of adequate knowledge and skill of nursing process, lack of adequate supportive supervision, lack of commitment and lack of adequate materials for Nursing Process.

The heavy workload of hospital nurses is one of the major problems for successful implementation of the nursing process. Nursing workload definitely affects the time that a nurse can allot to various tasks. Under a heavy workload, nurses may not have sufficient time to perform tasks that can have a direct effect on patient safety [14]. A heavy workload can lead to poor nurse-patient communication [15]. A heavy workload may also reduce the time spent by nurses collaborating and communicating with physicians [16]. In the study conducted in government hospitals of Addis Ababa, showed that those nurses working in a stressful working environment were 2.8 (adjusted OR: 0.357, 95%CI: (0.157-0.814)) times less likely to implement nursing process than those nurses working in a negligent environment [12].

Another important factor in the implementation of the Nursing Process is the capacity of the nurses. The performance of a health organization depends on the knowledge, skills, and motivation of individuals [18]. The Addis Ababa study showed that highly knowledgeable respondents were 38.913(Adjusted OR: 38.913, 95%CI: (10.3-147.006))times more likely to implement nursing process than low knowledge group nurses adjusted for working environment, facility, and sex. [12] The qualitative result of this study also showed that most of the respondents described that nurses were not committed to implement nursing process. Among the reasons this negligence was absence of recognition for highly devoted nurses; their experience with declining value of nursing despite their efforts; and poor payment. [12] After a theoretical–practical training during the implementation of the nursing diagnosis, nurses reported a positive change in their feelings after their initial discomfort and unfavorable perception of the nursing diagnosis [10].

The other factor that hinders implementation of nursing process is poor supervision. Clinical supervision enables individual practitioners to develop knowledge and competence, assume responsibility for their own practice and enhance consumer protection and safety of care in complex clinical situations [3]. If executed correctly, supervision could be a mechanism for

encouraging professional development and improving worker job satisfaction and motivation. Generally, clinical supervision is also important as a tool to support quality improvement, risk management and performance management and building systems of accountability and responsibility (19). Consequently, it has been suggested that in all work settings nurses should receive adequate support and supervision to ensure that they have the opportunity to gain professional knowledge and expand their skills [3].

The Ethiopian Quality Improvement and Performance Monitoring (QIPM) guideline states the responsibility of Case Team managers or heads as: communicate and enforce QIPM decisions/action plans to staff in their units; identify problems in performance, discuss and analyze with unit staff; provide adequate and timely feedback and ensure that quality management activities, including Nursing Care Standards, take place within their Case Team (20).

It is reasonable to conclude that the nursing process is important for the practice of nursing; however, its use is not an easy task. Therefore, a continuous evaluation of how the nursing process is executed within the health services is required [20].

II. Methodology

1. Project area / setting

The study was conducted in two wards of Mekelle hospital, namely, Surgical and Medical wards, which hosts around 60% of the total admissions. The wards have a total of 95 beds (24 in Medical and 71 in Surgical). There are a total of 39 clinical nurses (13 in Medical and 26 in Surgical) working in the wards at the end of January 2013. These wards were selected because they host majority of the total hospital admission as well as majority of the clinical nurses of the hospital.

2. Study design

A facility based pre- post interventional study was employed. The status of the Nursing Process implementation was assessed by reviewing patient's Medical Records (MRs) at baseline and compared to the implementation status sometime after the introduction of the entered interventions.

3. Sample size and sampling procedure

3.1 Sample size

A total sample size was determined using a sample size calculation formula for comparative interventional study that allows detecting a 23% change in the primary outcome as a result of the intervention packages. The parameters used in the sample size calculation are a 23% absolute change (from p_1 to p_2) in the proportion of patients who received a complete Nursing Process with a confidence level of 95% and study power of 80%. A 10% contingency was considered to account missing information as a result of loss of Medical Records. Based on the above assumptions a total of 102 Medical Records were reviewed. The sample size calculation is shown in Figure 3 below. The design used a one-one control and intervention ratio and the sample size was equally divided into both groups (51 pre-intervention and 51 post-intervention).

3.2 Sampling technique

The list of all patients discharged three month prior to the data collection period was obtained from the hospital admission and discharge database. The total sample size was proportionally

allocated to each ward based on the number of patients. Then, the study subjects were randomly

$$n = \frac{(Z_{\alpha} + Z_{\beta})^2 * [p_1(1-p_1) + p_2(1-p_2)]}{(P_2-p_1)^2}$$

Where, n =the required sample size

p_1 = the proportion of patients who received a complete Nursing Care pre-intervention (before intervention) = 0.37

p_2 = the target value of the proportion of patients who received a complete Nursing Care post-intervention (after intervention) = 0.60

$p_2 - p_1$ = is the magnitude of change it is desired to be able to detect = 0.23

$1 - \alpha$ = the level of confidence; ($\alpha = 0.05$, $Z_{\alpha} = 1.645$)

$1 - \beta$ = the power of the study; ($\beta = 0.8$; $Z_{\beta} = 0.84$)

$$n = (1.645 + 0.84)^2 * [0.23(1 - 0.23) + 0.46(1 - 0.46)] / [0.46 - 0.23]^2$$

$$= 92.63 \approx 93$$

10% Contingency = $9.3 \approx 9$

Total Required Sample Size = 102 (51 Pre-intervention and Post-Intervention)

Figure 3: Calculation of the Sample Size

4. Data collection procedures

The data source for this study was the Patients' Nursing Care Plan, Documentation of the MR of patients discharged from the hospital wards and nurses/head nurses working in the selected wards. The data collection methods used in this study included record/document review. Data was collected at baseline and at the end of the study to compare the Nursing Process Implementation status pre and post-intervention periods. The same data collection tools, procedures and people were used in both periods to facilitate comparison and avoid possible biases.

The Nursing Process Extraction Form (See Annex 1) was used to collect information from the patient Medical Records on the status of Nursing Process Implementation. This tool was adopted from the hospital Nursing Care Plan Documentation Form.

The data extraction form (See Annex 1) contain information regarding general patient identification and information on the five components of the Nursing Care Process, namely, Nursing admission assessment, Nursing diagnosis, Nursing care plan and Nursing care plan implementation and Nursing Evaluation.

Two data collectors (one for each ward) were recruited to collect data from the MR. The data collectors were selected from the clinical nurses working in different departments of the hospital.

5. Measurements

Nursing Process implementation status was measured using document review. A patient was classified as received a complete Nursing Process if he/she has a documented Nursing Assessment, Nursing Diagnosis, Nursing Care Plan, Nursing Implementation and Nursing Evaluation. Otherwise, the patient was classified as not received a complete Nursing Process. Nursing Process implementation status was also measured for each stages/phases of the Nursing Process. In this case, a patient was classified as receiving a completed of the Nursing care Process.

6. Data analysis

To assess the overall Nursing Process implementation status, the proportion of patient cards with complete documentation of the Nursing Process forms were calculated for both pre intervention and post–intervention groups. Implementation status was assessed for each five components of the Nursing Process. A Pearson’s Chi – square test was used to test the difference in the outcome of interest before and after intervention and a P – Value < 0.05 was considered statistically significant.

7. Data quality management

One day training was given for the data collectors. The PI closely supervised the whole data collection process. All quantitative variables were coded using SPSS Version 16.1 and entered by the PI on a daily basis on this program.

8. Ethical consideration

The proposal was reviewed and approved by Addis Ababa University, School of Public Health, and Ethical Review Committee. An official letter was obtained from the University submitted to the respective organization (Mekelle hospital) to obtain the study permit prior to the start of the study. Personal identifiers such as name and address of the patients were not collected to safeguard the confidentiality of the patients.

9. Plan for dissemination of results

The finalized study results will be presented at public defense forum and will be submitted to Addis Ababa University for possible documentation in the libraries. Copies will also be sent to hospital management, Regional Health Bureau, Federal MOH, and different NGOs involved in improving hospital performance. Different opportunities for scientific publications will also be sought.

III. Interventions

1. Selection of the interventions

Base on the major problems identified, the SMT listed alternative interventions and evaluated each intervention based on five Evaluative Criteria, namely, impact on the problem, resources and time required to implement, and political feasibility.

Table 2- Results of Comparative analysis of alternatives using the Qualitative Options Appraisal analysis Mekelle Hospital, Tigray, Ethiopia January, 2013 Options	Impact	Resources	Time	Political Feasibility	Total Score
Option 1: Training of staff	2	4	5	5	16
Option 2: Increase nursing staff	2	1	1	1	5
Option 3: Increase supervision	2	5	3	5	15
Option 4: Provide Nursing Process Forms	2	3	3	5	13
Option 5: All except Option 2	5	2	3	5	15

The results showed that, if each evaluative criterion is weighted equally, training of staff about Nursing Care Process is the best option with a total score of 16, followed by increase supervision and all except Option 2 (with a total score of 15). However, since the impact of Option 1 and 3 on solving the problem are low compared to Option 5; and because the hospital better financial capacity, the group selected Option 5 as the best alternate solution.

2. Implementation of the Interventions

2.1 Training for 34 staff nurses

Three day onsite training was given to 34 nurses from the Medical and Surgical Wards, based on the EHRIG, Chapter 6, and Nursing Care Standards. The training focused on the Nursing Process components, namely: Nursing Admission Assessment, Nursing Diagnosis/Problem Identification, Nursing Care Plan, Implementation of Nursing Care Plan and Evaluation of the Nursing Care Plan. The main objectives of the training were to: discuss the importance of Nursing Process; describe the five Nursing Process Components; describe the Nursing Process Documentation tool adopted by the hospital; and discuss the challenges Nurses face in

implementing Nursing Process. The training was given by BSC Nurses working in the hospital that have better knowledge and training experience on Nursing Care Standards

2.2 Provide Nursing Process Forms based on the wards request

Another package of the intervention was provision of Nursing Process Documentation Forms. First, the number of Nursing Process Documentation Forms required for the hospital was determined by the number of patients admissions, based on the previous annual report (2004), which was 3893. Then, a 10% contingency was considered to account for possible increase in the number of admissions. Accordingly, around 4300 Nursing Process Documentation Forms were printed, along with other required documentation and made available to the Liaison Officer. The total cost for availing the Documentation Forms was around 1300 Ethiopian Birr.

2.3 Internal Supportive Supervision

The Internal Supportive Supervision was another package of the intervention. Assessment of Nursing Process has been done in the intervention Wards every week. The individuals involved in this phase were head nurses of the wards, matron and the Principal Investigator. The assessment was, mainly, based on a review of a randomly selected inpatient records from each intervention wards to confirm that each contains nursing care plan documentation. After each ward assessment, the team discusses on the key findings, the major challenges and areas for improvement in the implementation of the Nursing Process.

A close follow up of the implementation of the Nursing Process was also been made by the Ward Head Nurses during the working hours. The Ward Head Nurses checked the completion of the Nursing Process Documentation Form on a daily bases.

In addition, the progress of implementation of the Nursing Process has been reviewed every month by the SMT, Quality Committee and the Nursing Committee of the hospital.

IV. Result

A total of 48 Medical Cards of discharged patients was reviewed during the pre intervention and 49 Medical cards were reviewed during post intervention period. Of the total 48 reviewed during the baseline, 36 (75.0%) of them had Nursing Care Plan Documentation attached in their Medical Cards. This has increased to 47 (95.9%) during the post intervention period. The proportion of patient who documented Nursing Admission Assessment increased from 58.3% to 87.8%. Similarly, the proportion of patient who had documented Nursing Diagnosis, Nursing Care Plan, and Nursing Implementation increased from 66.7%, 68.8% and 64.6% to 93.9%, 93.9% and 91.8%, respectively (See Table 1 Below). The Nursing Evaluation of the Nursing Process was found to be the component most frequently missed by the nurses, both in the Pre and Post-intervention periods. Only 22 (45.8%) and 32 (65.3%) of the patients had documented Nursing Evaluation during the Pre and Post-intervention periods, respectively.

Table 3 Comparisons of the Pre and Post – Intervention implementation of Nursing Process at Surgical and Medical wards of Mekelle Hospital, Tigray regional State, Ethiopia

Nursing Process Components		Pre-Intervention (N=48)	Post-Intervention (N=49)	Chi-Square Tests (P-Value)
Nursing Care Plan Documentation is in the MR	No	12(25.0)	2(4.1)	8.59(0.003)*
	Yes	36(75.0)	47(95.9)	
Nursing Admission Assessment	Incomplete	20(41.7)	6(12.2)	10.70(0.001)*
	Complete	28 (58.3)	43(87.8)	
Nursing Diagnosis	Incomplete	16(33.3)	3(6.1)	11.40(0.001)*
	Complete	32 (66.7)	46(93.9)	
Nursing Care Plan	Incomplete	15(31.2)	4(8.2)	8.21(0.004)*
	Complete	33 (68.8)	45(91.8)	
Nursing Implementation	Incomplete	17(35.4)	4(8.2)	10.62(0.001)*
	Complete	31 (64.6)	45(91.8)	
Nursing Evaluation	Incomplete	26(54.2)	17(34.7)	3.73(0.054)
	Complete	22 (45.8)	32(65.3)	
Overall Nursing Process	Incomplete	30(62.5)	18(36.7)	6.44(0.011)*
	Complete	18 (37.5)	31(63.3)	

* The Chi-square statistic is significant at the 0.05 level.

Operational definitions:-

1. Complete- refers A patient was classified as received a complete Nursing Process if he/she has a documented Nursing Assessment, Nursing Diagnosis, Nursing Care Plan, Nursing Implementation and Nursing Evaluation.

2. incomplete-refers the patient was classified as not received a complete Nursing Process if he/she has not a documented Nursing Assessment, Nursing Diagnosis, Nursing Care Plan, Nursing Implementation and Nursing Evaluation.

Overall, 31 (63.3%) of the patients had documented complete Nursing process Post-intervention. By comparison, 38% of the patients had documented complete Nursing process during the baseline assessment, an increase by 25.8%

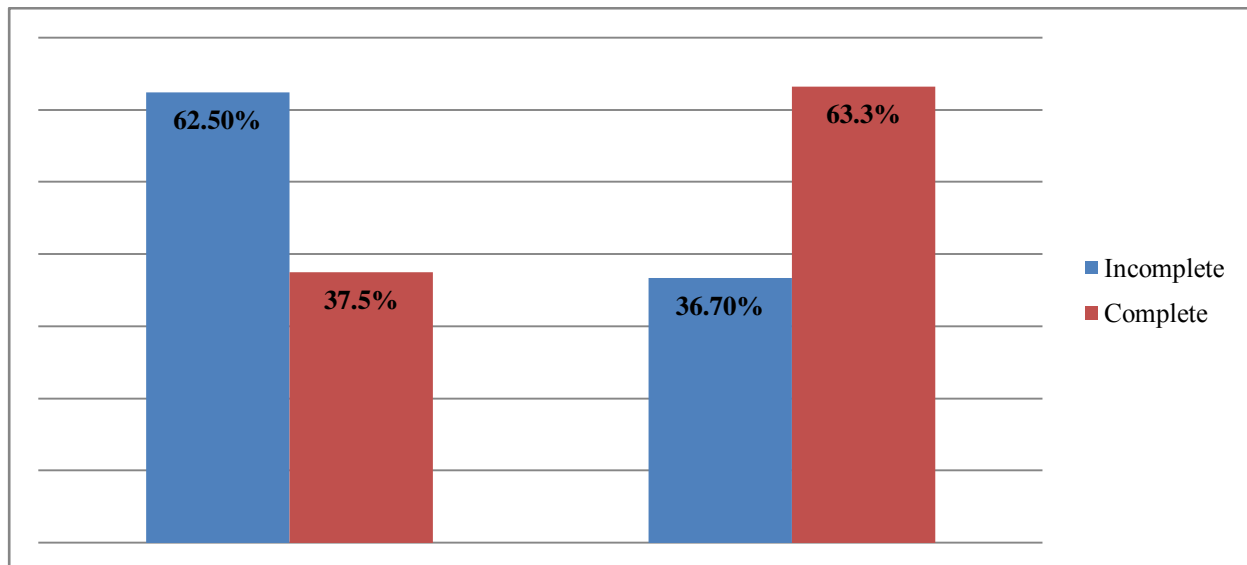


Figure 4- Overall Nursing Process of patents admitted to Surgical and Medical wards in Mekelle Hospital, Tigray regional State, Ethiopia

The Chi-Square tests for the difference in the implementation of the Nursing Process showed that there is a statistically significant difference in most component of the Nursing Process, except for

Nursing Evaluation, which is marginally insignificant (P-Value = 0.054). Similarly, the Chi-Square test indicates that there is a statistically significant difference in the overall Nursing Process (See Table 1 above).

A separate assessment of the Nursing Process showed that all, during the final assessment, 22 (100%) and 25(92.6%) of the patients admitted to Medical Ward and Surgical Ward, respectively, had Nursing Care Plan Documentation attached in their Medical Cards. The percentage of patients who received complete Nursing Admission Assessment increased in both ward (50,0% to 90.9% in Medical Ward and 64.3% to 85.2% in Surgical Wards). Similar achievements have been observed in other components of the Nursing Process,

Table 4 Nursing Process of patents admitted at Medical and Surgical wards of Mekelle Hospital, Tigray regional State, Ethiopia

Nursing Process Components	Medical Ward N(%)		Surgical Ward N(%)	
	Pre- Intervention (N=20)	Post- Intervention (N=22)	Pre- Intervention (N=28)	Post- Intervention (N=28)
Nursing Care Plan Documentation is in the MR	14(70.0)	22(100.0)	22(78.6)	25(92.6)
Nursing Admission Assessment	10 (50.0)	20(90.9)	18 (64.3)	23(85.2)
Nursing Diagnosis	11 (55.0)	21(95.5)	21(75.0)	25(92.6)
Nursing Care Plan	11(55.0)	20(90.9)	22(78.6)	25(92.6)
Nursing Implementation	10 (50.0)	20(90.9)	21 (75.0)	25(92.7)
Nursing Evaluation	4(20.0)	13(59.0)	18 (64.3)	19(70.4)

Implementation of the Nursing Evaluation remained low compared to the other components of the Nursing Process. In the Medical wards though there is a significant improvement, increased by 39%, a significant proportion of patients (41.0%) did not have Nursing Evaluation documented in their medical record

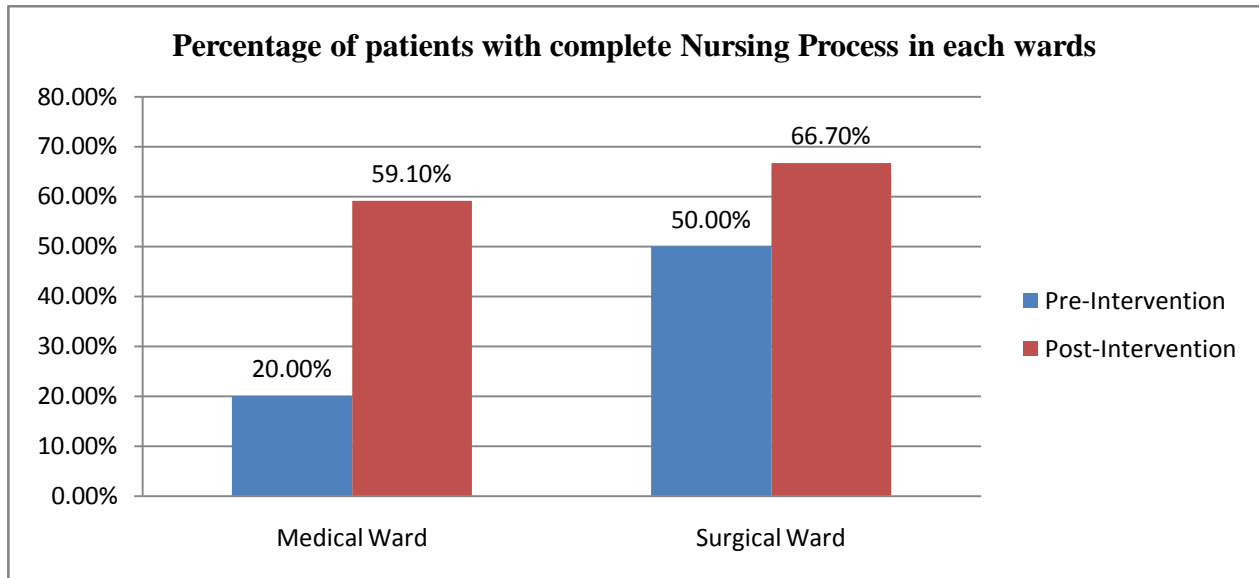


Figure 5 Overall Nursing Process of patents admitted to Medical wards in Mekelle Hospital, Tigray Regional State, Ethiopia

Overall, 13 (59.10%) of the patients admitted in Medical Wards and 18 (66.7%) in surgical wards had and received complete Nursing Process as compared to 4 (20.0%) medical ward and 18(64%) during the baseline assessment

V. Discussion

This project aimed to improve the implementation of Nursing Process by providing selected interventions. A systematic approach (PDSA-Cycle) was used to achieve the project objectives.

Though the overall implementation of the Nursing Process pre-intervention (37.51%) was lower compared to the study reported from Addis Ababa (52.1%), it exceeded this value (63.31%) after intervention [13]. The implementation of Nursing Process has increased by around 25% from baseline. Similarly, significant improvement has been observed in the implementation of most components of the Nursing Process following the implementation of the intended interventions. On average, 90.1% of patients had documented Nursing Admission Assessment, Nursing Diagnosis, Nursing Care Plan, and Nursing Implementation, showing an average increase by 26.7% from the base line. This implies that implementation of Nursing Process can be improved with some interventions delivered in a systematic way. Nevertheless, a significant proportion of patient cards still did not have documentation of Nursing Evaluation, which is one of the

important components of the Nursing Process. A discussion with the ward Nurses and Heads showed that they have difficulties in documenting the Nursing Process, particularly the Nursing Evaluation. Thus, specific capacity building might be necessary for the Nurses so as they will be able to provide complete Nursing Process.

One of the major challenges in the implementation of the Nursing Process observed during the follow up period was lack understanding and commitment of Nurses for in the Nursing Process. A significant number of Nurses have viewed that Nursing Process just as a repetition of the Physician Care. This could in fact be a result of the lack of knowledge and understanding to differentiate the Nursing Process and the Physician Care. To overcome this challenge, a 'One to Five Networking' was introduced in all wards, besides the Supportive Supervision of Nurses, in which one Nurse with better understanding and performance of the Nursing Process coaches another four Nurses. This has helped, to some extent, the Nurses to develop better understanding and performance, but it appeared that a continuous implementation of this process is mandatory to bring about significant changes, as attitudinal changes might not overcome overnight.

Another major challenge in the implementation of the Nursing Process observed during the follow up period was lack of accountability of the Nurses for implementing the Nursing Process. The responsibilities for providing the Nursing Process for all admitted patients were shared among all Nurses working in the wards. To overcome these challenge, each beds was assigned to each Nurse working in the wards, so as they will be responsible for providing the Nursing Process for each patients admitted to that bed.

Since the interventions are low cost interventions and most of the hospitals in Ethiopia are operating in a similar environment, the interventions could be replicable in other similar hospitals. However, a throughout investigation of the root causes for the poor implementation of the Nursing Process are deemed necessary to pick the appropriate interventions.

Another challenge was lack of eight hour Nurse Shift, especially for patients with short length of stay in the wards. The existing Nursing Shift schedules have hampered the Nurses to have adequate time to contact their patients during the day time which resulted in incomplete Nursing process or even patients with no Nursing Process. Implementation of an Eight Hours Nursing Shifts could be able to resolve these challenges. However, a thorough discussion of the issue

with the senior management team has come into the decision that it could not be implemented currently, mainly because of inadequate transport facilities, but it have to be the future direction.

One of the major limitations of this study that is worth mention is that the assessment was based on the documentation of the Nursing Process, which may not give the exact picture of the existing implementation of the Nursing Process. On one hand, Nurses might fail to document the Nursing Care they provide to their patients. In this case, the assessments based on the documentation of the Nursing Process will tend to underestimate the existing Nursing Process in the wards, which is the case in most developing countries. On the other hand, if Nurses tend to fill the Nursing Process forms just for the sake of avoiding their accountability, the assessments based on the documentation of the Nursing Process might tend to overestimate the existing Nursing Process.

Conclusions:-

- These problems are manageable if a nurse can properly implement nursing care process [4]
- A continuous coaching is mandatory to bring significant changes
- This implies that implementation of Nursing Process can be improved with some interventions delivered in a systematic way
- The previous studies reported from Addis Ababa government hospital was 52.1% [13]., result of this study it exceeded to 63.3% after intervention so it is improved

Recommendation

To improve the Nursing Process

- Strengthen continuous Supportive Supervision of Nurses and Networking
- Nurse accountability to implement the Nursing Process should be developed
- A systematic approach (Such as PDSA Cycle) should be approached
- A more standard tool to assess the Nursing Process should be developed by Tigray Regional Health Bureau

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Annexes

Annex 1 Nursing Care Process Data Extraction Form

Participant ID No:				
Full Name:				
MRN:				
Ward:				
Name of Data Collector:				
Date Admitted:				
Date Discharged:				
SN	Nursing Care Process assessment tools	Yes	No	Comments
PART ONE: Complete Nursing Admission ASSESSMENT				
1	Patient's Nursing Care Plan Documentation is attached in the MR			
PART TWO: Complete NURSING Diagnosis				
201	Cognitive and perceptual			
202	Activity and exercise			
203	Elimination – urine and feces			
204	Sleeping			
PART TRHEE: Complete NURSING plan				
301	Date& Time Identified			
302	Problem No			
303	Nursing problem (Nursing DX)			
304	Nursing outcome/Goal/			
306	Date Resolved and Time			
307	Signature and Designation			
PART FOURE: nursing implementation and Evaluation				
401	Date& Time Identified			
402	Problem No			
404	Intervention/Action			
405	Signature and Designation			
504	Patient Progress Report / Evaluation			
505	Review Date and Time			

◀ . Nursing care process was analysis by data extraction from patient medical Records

- More focusing on the five component

--complete nursing admission assessment (documentation is attached)

-- complete nursing diagnosis (cognitive, perceptual, activity and sleeping)

--complete nursing care plan (problem no. time identified and goal)

--complete nursing implementation (intervention action)

--complete nursing care evaluation (patient progress report)