

NURSING PROCESS IMPLEMENTATION AND ASSOCIATED FACTORS IN  
PUBLIC HOSPITALS OF WEST WOLLEGA ZONE; OROMIA REGIONAL  
STATE; WEST ETHIOPIA-FROM NURSES PRESPECTIVE

BY: MESFIN TASEW (CN, BA in Mgt)

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STATE, ETHIOPIA:-FROM NURSES PERSPECTIVE

BY: MESFIN TASEW (CN, BA in Mgt)

**ADVISORS:**

1. PROF. MIRKUZIE WOLDIE (MD, MPH, Professor of HPM)
2. YIBELTAL SIRANEH (PH, MPH/HSM, PhD Fellow)

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**Jimma, Ethiopia**

## **Abstract**

**Background:** Evidence in the literature shows that implementation of the nursing process leads to improved quality of care and stimulates the construction of theoretical and scientific knowledge based on the best clinical practice. However, this critical aspect of health care delivery did not subjected to empirical assessment in the study area.

**Objective:** To assess nursing process implementation status and associated factors in public hospitals of West Wollega Zone Oromia Regional State, West Ethiopia-from nurse's perspective.

**Methods:** Facility based cross-sectional study design with quantitative data collection method supported with qualitative. The research conducted on four public hospitals of West Wollega Zone from March 04 – March 29, 2019. The sample size was all one hundred eighty-three nurses working in the hospitals taken by census. Two hundred patients' cards selected. Nine key informants selected purposively for qualitative data collection. Self-administered structured questionnaire open-ended questions and checklist used for data collection. The data entered using EP-data version 3.1, then exported into SPSS version 25 for analysis. Both bivariate and multivariate logistic regression model fitted to identify possible factors associated with nursing process implementation. Statistical significance was declared with adjusted odd ratio at 95% confidence interval (CI) and p-value of <0.05

**Result:** 183 nurses were participated in the study with a response rate of 97.8. From the participants (92(50.3%) of them were implemented nursing process. In multivariable logistic regression analysis regular monitoring(AOR=6.872, 95%CI=1.752-26.951),daily working hours (AOR=6.250,95% CI=1.205-32.406),nurses' turnover due to NGO attractive payment (AOR=3.479,95% CI=1.035-11.695),monthly income of nurses (AOR=8.398,95% CI=1.305-54.033),patient turnover due to miss-understanding of modern medicine(AOR=0.152,95% CI=0.037-0.625) were factors statistically associated with the implementation of nursing process.

Data obtained from medical record showed that the implementation status was 41.5%.The qualitative finding also showed that nursing process implementation not monitored regularly.

**Conclusion:** The result showed that the nursing process implementation in the study hospitals was low. Lack of regular monitoring, monthly income of nurses, nurses' turnover due to NGO attractive payment, daily working hours were positively associate factors and patient turnover due to miss-understanding of modern medicine was negatively associated with the implementation of nursing process.

**Key words:** Nursing Process Implementation, Public Hospitals, West Wollega Zone

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## **LIST OF ABBREVIATIONS**

- ADPIE =Assessment, Diagnosis, Planning Implementation and Evaluation
- BSC =Bachelor of Science
- CBHI= Community Based Health Insurance
- CEO=Chief Executive Officer
- CN =Clinical Nurse
- DC = Data collection
- EHSTG = Ethiopian Hospitals Services Transformation Guideline
- ENA = Ethiopian Nurse Association
- FMoH = Federal Ministry of Health
- GST =General system Theory
- HSTP = Health Sector transformation plan
- ICN = International Council of Nurses
- MOE =Ministry of Education
- NAND=North American Nursing Diagnosis Association
- NP =Nursing Process
- ORHB=Oromia Regional Health Bureau
- SQ= Self-Administered Questionnaires
- ZHD = Zonal Health Department

## CHAPTER ONE: INTRODUCTION

### 1.1. Background

Nursing care has been evolved many years ago from a disease model to the holistic patient care approach of the present day. In the earlier period, patient was treated and cared based on the illness suffered with no consideration for the psychological and social relationship the patient's that come with physical illnesses and disabilities. Now a days, nursing however, considers holistic patient approach through scientific principles embedded in a process called the nursing process (1).

Since the time of Florence Nightingale, as of 1950's, the continuity of nursing care has been a vital and the care plan has considered the ideal solution for the care of critically ill patients. The "Nursing Process" then emerged, which used for the first time in 1961 by Orlando (2). Ida Jean Orlando describes in her nursing process that effective patient to nurse relationship leads to effective interventions, which most likely resulted in positive outcomes (3).

Since 1967, the theory of the nursing process has largely accepted by nurses. A person Lydia Hall first introduced the concept of nursing processes into nursing in 1955. Since then, North American Nursing Diagnosis Association (NANDA) agreed the concept of nursing diagnosis in 1982 and an initial list of such diagnoses was published (4). Nursing diagnosis constitutes a clinical judgment of responses from the individual, family, or community to the vital processes or to current or potential health problems, which provide a basis for the selection of nursing interventions. Therefore, the nursing activity is to not only document and compare, but also to ensure and improve the quality of nursing care (5, 7)

According to current American and Canadian practice standards, nursing practice demands the efficient use of the nursing process and professional participation activities that contribute to the permanent development of knowledge about this methodology (6, 11).

The nursing process is a systematic method of assessing, diagnosing, planning, implementing and evaluating individualized care for clients in any state of health or illness. Nursing process constitutes the foundation for nursing practice based on the scientific problem-solving method. It shows a theory of how nurses organize the care of individuals, families and communities (7, 8).

The individualized health care needs of patients met by an organized, systematic and holistic approach used by nurses' through nursing process. Nursing process is a step-by-step series of actions that leads to a particular result related to health of a patient. These steps are assessment, diagnosis, planning, implementation and evaluation (ADPIE (9, 10).

Nurses constitute a very large number of health professionals in all countries. The effectiveness of healthcare system is closely related to quality nursing. Quality of nursing care is the key element and has a significant role in the application of nursing process, which leads to quality of health care service, but, in practice, application of the nursing process underutilized in many parts of the world, especially in developing countries (11).

Implementation of the nursing process leads to improved quality of care that stimulates the construction of theoretical and scientific knowledge based on the best clinical practice. Due to this, quality of care will improve and decreases morbidity rate and hospital stay (12).

## 1.2. Statement of the Problem

Nursing is an emerging profession with a distinctive view on people, environment and health. The present holistic approach of nursing model has evolved from the medical model. Was focused on the treatment and care of pathological disease (15) .Nursing; care is one of the most important services in healthcare settings and can improve the overall quality of healthcare. It has a positive effect on the patient outcomes and it minimizes patient dissatisfaction at healthcare facilities (16)

To improve quality of nursing care in healthcare settings specially in hospitals, implementation of nursing process as scientific framework for delivering quality patient centered care plays a significant role in improving quality of care and stimulates the construction of theoretical and scientific knowledge base on clinical practices (11-13).

However, despite many parts of the world adopted nursing process as a framework of delivering quality nursing care and its incorporation in nursing curriculum, practically nurses face challenges in its implementation. This contributes to poor quality healthcare in public hospitals, which may result in poor quality of nursing care, disorganization of the service, medication error, poor diseases prognosis, readmission, dissatisfaction with the care provided, and increased mortality (13, 14, 16, and 31)

Effective implementation of nursing process leads to improved quality of care, which facilitates healing process and so minimizes hospital stay, increases patient satisfaction and increases service utilization. Working time and productivity of a patient increases if the patient's hospital stay decreases, this also decreases the cost of the healthcare system and the patient (17, 18)

A study conducted in Kenya showed, as nursing process involves a series of steps that begins from assessing the patient up to the evaluating of the care given. This requires writing down of individual specific notes by hand in each step to have full information about the delivery of care. Here, the massive amount of documentation generated by the implementation of this process is assumed to be time consuming and tiresome for nurses (1)

A study conducted in Ethiopia showed that the daily application of nursing process requires knowledge and provides individualized human assistance with basic needs using a holistic

approach, and the patient is someone who needs care, which is characterized by the scientific background of the professionals involved. This requires a strong cognitive process (20).

Currently the government of Ethiopia has paid a great attention to improve quality of healthcare service. To do this the Ministry of Health developed hospital based reforms as Ethiopian Hospitals Service Transformation Guideline (EHSTG), which incorporates nursing process. This reform, is being on implementation in all hospitals in the country, and become the core focus of Health sector Transformation Plan (HSTP) in quality assurance (22-24). In addition, different stakeholders like Clinton Foundation process gave in service training for all hospital nurses on the implementation of nursing. Nursing process training now became the focus of Ministry of Health (MoH) throughout the country to solve the problem regarding skill gap in the application of nursing process (19, 20).

In Ethiopia even though there was adoption of nursing process in nursing curriculum and other activities, still there is a gap in the implementation of nursing process among nurses working in most public hospitals. This resulted in customer dissatisfaction due to poor quality of nursing care. For instance a study conducted Tigray Region 2015 showed that out of 200 participants enrolled in a study, only seventy (35%) of them had implemented nursing process (8).

Evidence in the literature shows that implementation of the nursing process leads to improved quality of care and stimulates the construction of theoretical and scientific knowledge based on the best clinical practice (12). However, this critical aspect of health care delivery has not subjected to empirical assessment in the study area. Additionally previous studies did not consider substantiating respondents' results by medical record review and qualitative method of data collection.

### **1.3. Significance of the study**

Studying the topic will contribute the following benefits:

The outcome of this study will contribute an input to the improvement of the quality of patient care in the study hospitals.

And the result of this study may contribute some important knowledge for policy makers and health care planners of the MoH, Oromia Regional Health Bureau and West Wollega Zone Health Department.

It can help hospital managers in solving problems that contribute to non-implementation of nursing process and the findings aware nurses who were working in the hospital, by enabling them to reflect on their practices towards the nursing process. Furthermore, the findings will serve as a baseline for the continuous monitoring of nursing process implementation in the hospitals.

## CHAPTER TWO: LITERATURE REVIEW

### 1.1. Implementation of Nursing Process

Currently nursing process is implementing in many parts of the world, but the implementation status is very wide from country to country, especially in developing countries as different studies revealed.

A study conducted on Assessment of utilization of nursing process in a District Hospital in Ghana, 2015 showed that the nursing process implementation was 77.13%(13).

As study conducted on The Implementation of Nursing Process and Associated Factors among Nurses Working in Debremarkos and Finoteselam Hospitals, Northwest Ethiopia, 2013 ,revealed that out of 124 respondents, only 37.1% of nurses were implementing nursing process very much and the rest 62.9% not practicing (32)

A study conducted in Mekele Region, in Mekele Zone hospitals in 2014 showed that out of 200 nurses involved in a study, almost all, 180(90%) have poor knowledge to implement NP. This shows that implementation of nursing process was almost null (11).

A study conducted in selected hospitals of Addis Ababa in 2014 showed that out of 202 study participants almost half of them, 100 (52.1%), nurses were implemented nursing process where as 92(47.9%) of them were not implemented nursing process(19).

A study conducted in selected hospitals of Central and Northwest zones of Tigray Region 2015 showed that out of 200 participants enrolled in a study, only Seventy (35%) of participants have implemented nursing process. Most of the nurses (65%) were not did so (8).

A study conducted in Arbaminch University, Ethiopia, 2015 on Determinants towards Implementation of Nursing Process showed that out of 105 respondents, only 43 (43.87%) of the nurses made visible their nursing related activities (17).

A study conducted in Public Hospitals of Harari People National Regional State in 2017, Showed that from a total of 174 nurses who were included in the study, almost half of the respondents 85 (48.9%) were practiced nursing process, but 89(51.1%) were not(4).

## **1.2. Factors affecting nursing process implementation**

### *1.2.1. Nurse's related factors*

#### *1.2.1.1. Knowledge, attitude and experience of nurses for the implementation of NP*

A study conducted on Challenges Faced by Nurses on Implementation of Nursing Process in Special Units at Teaching Hospital, Jaffna; The Open University of Sri Lanka in 2018 showed that majority of the nurses (73%) lack theoretical knowledge of nursing process. Out of 100 respondents included in a study, 52% of participants strongly agreed that positive attitude of nurses help the practice of nursing process (12).

A study conducted on the barriers and facilitators for execution of nursing process from nurses' perspective in Egypt, 2014 showed that 68.2% of nurses agreed there is lack of time to implement nursing process as it is time consuming and criticized by many nurse. The study also identifies nurse's opinions on the documentation of NP. As it involves a series of stages which include writing down of nursing activities by hand makes nurses feel they have no time for. Lack of knowledge to perform the process is the major factor leading nurses to avoid implementing nursing process in their daily activities (5).

A study conducted on Implementation of the Nursing Process in Naivasha District Hospital, Kenya, 2016 showed that Forty- three (51.8%) participants strongly agreed that the nursing process facilitates total patient care while 32.7% (n=27) agreed. Thirty-six participants (43.4%) strongly disagreed that nursing care plans are a waste of. Majority of the participants (60.2%) strongly disagreed that nursing care plans are a mere academic exercise while 87.7% strongly agreed that care plans facilitate establishment of priorities of care. Overall, majority of the nurses' attitude towards the nursing process was positive (14).

A study conducted on the assessment of knowledge and practice of nursing process among nurses in university of Calabar Teaching Hospital, Cross River State, Nigeria, in 2016 showed that out of 200 study participants, 37(30.8%) strongly agreed, that adequate knowledge of nurses on nursing process will improve the practice of nursing process. Nursing process should only be taught in school due no time for nurses so not applied in the clinical setting. 34(28.3%) strongly agreed while 23(19.2%) strongly disagreed, 27(22.5%) strongly agreed that workload does not



allow nurses to practice the nursing process, 50 (41.7%) agreed, 22(18.3%) disagreed while 21 (17.5%) strongly disagreed (6).

A study conducted on Nurses' Knowledge, Perspectives and Practice of the nursing Process in Two Public Hospitals in Kenya, 2017, showed that majority of nurses have highly agreed that the application of nursing process is cumbersome(56.2%). Applying nursing process is not mandatory to draw nursing care plan (44.8%), nursing care plan should only be drawn for the very sick patients (64.8%) and that writing of a care plan is a burden to nurses (40%) (29)

A study conducted on Factors Affecting Implementation of Nursing Process: Nurses' Perspective, Mansoura University, Egypt, 2017 showed that the majority of the respondents (99.0%) give correct answer about assessment but only 9% of them give correct answer regarding diagnosis. The study also showed that, participants with the age of (35-39 years 47.7%) had average knowledge score. A significant association between knowledge score and age group observed. The work experience between 5-9 years was (75%) good knowledge score than other age groups. A significant association between knowledge score and Years of experience observed. All studied nurses 100.0% have no sufficient interest in using the nursing process, (10)

A study conducted Assessing Barriers To Implementation Of Nursing Process Among Nurses Working At A Tertiary Hospital in Kenya in 2018 showed that nurses who have trained on nursing process were more likely to implement the nursing process 41 (37.6%) compared to those who had not trained 3 (12%). Nurses, who had trained in the nursing process, competently practice the nursing process (26).

As study conducted on The Implementation of Nursing Process and Associated Factors among Nurses Working in Debremarkos and Finoteselam Hospitals, Northwest Ethiopia, 2013 ,revealed that out of 124 respondents, 46 (37.1%) practice NP very much, 62 (50%) practiced somewhat and the rest 16 (12.9%) not at all . The study showed that knowledgeable nurse was more likely to implement nursing process. Working experience of more than 4 years was almost double more likely to implement nursing process than working experience of less than or equal to 4 years (32)

As study conducted on Application of Nursing Process and Its Affecting Factors among Nurses Working in Mekele Zone Hospitals, Northern Ethiopia , 2014, showed that out of the

study participants, 181 (90.5%) reported that they have heard about nursing process, but 61 (30.5%) failed to mention the steps of nursing process effectively. Of nurse 71 (35.5%), 67 (33.5%), and 55 (27.5%), respectively, failed to mention evaluation, implementation, and the nursing diagnosis steps. Only 5 respondents (% 2.5%) were mentioned the number of nursing diagnoses, five, and the rest 94 (47%) failed to respond to the question. Nurses have no knowledge on the nursing diagnosis; 60 (30%) of respondents mentioned actual nursing diagnosis; 48 (24%) of respondents mentioned risk nursing diagnosis; and 4 (2%) of respondents mentioned possible nursing diagnosis. Regarding the overall knowledge of nurses on nursing process, the majority, and 180 (90%), of them has poor knowledge while only 20 (10%) of them has fair knowledge. From the in-depth interview, it was found that nurses have no adequate knowledge to implement nursing process. For instance, one of the key informants said “*I do not believe that nurses have enough knowledge about the nursing process.*” From the educational level point of view, the key informants made it known that BSc nurses may have better knowledge to apply the nursing process. One key informant said “*I think BSc nurses have better knowledge than diploma nurses to apply the nursing process.*” The other key informant said “*I think BSc nurses have better knowledge in nursing process than diploma nurses because the nursing process is included in the curriculum of BSc nursing.*” (11).

A study conducted in selected hospitals of Central and Northwest zones of Tigray Region, Ethiopia, 2015 shows that knowledge and skill of nurses to implement the nursing process; out of 200 respondents, 79 (39.5%) of the nurses had low knowledge of the nursing process while 92 (46%) nurses were moderately skilled in the activity of nursing care. Nurses with degree holder (BSc) in their educational level are 6.972 times more likely to implement the nursing process than diploma-educated nurses. Highly knowledgeable nurses were 15.09 times more likely to implement the nursing process than low knowledgeable nurses by adjusting all other factors (8)

A study conducted on Assessment of Nurses’ Perceptions and Barriers on Evidence Based Practice in Tikur Anbessa Specialized Hospital Addis Ababa Ethiopia in 2015 revealed that out of the respondents 155 (73.8%) have positive attitude. Only 55 (26.2%) have negative attitude and belief towards implementation of (33).

Another study conducted on The Practice of Nursing Process and Associated Factors Among Nurses Working in Public Hospitals of Harari People National Regional State, Eastern Ethiopia in 2017, showed that nurses' attitude towards the nursing process 92 (52.9%) were favorable attitude and 82 (47.1%) were unfavorable attitude. Regarding the practice of nursing process question assessment was performed in greater than two third 144 (82.8%) of cases; diagnosis was made in two third 136 (78.2%) of cases; planning was made in 130 (74.7%) of cases; implementation was made greater than half 107 (61.5%) of cases and evaluation was made almost half 85 (48.9%). The study also showed that nurses who have less knowledge of nursing process were 96% less likely to practice nursing process as compared to their counterparts (4)

### ***1.2.2. Organizational Related Factors Affecting Implementation of Nursing Process***

A study conducted on Challenges Faced by Nurses for Implementation of Nursing Process in Special Units at Teaching Hospital Jaffna, Sri Lanka in 2018, showed that 88% of nurses have no enough time to implement nursing process and 69.8% have workload for implementing nursing process. The study also showed that 48% unavailability of materials for documentation and 42 % shortages of nursing staff are most common barriers for application of nursing process (12).

A study conducted on the assessment of barriers and facilitators for execution of nursing process from nurses' perspective in Cairo University: Egypt in 2014, showed that most frequently nurses have encountered 81% of inadequate staff in the unit and workload as the most commonly barriers. Lack of specified nursing care document and education budget, insufficient equipment and absence of supplies and materials and that lack of time due to high patient flow are challenges for the execution of nursing process(5).

A study conducted on the assessment of knowledge and practice of nursing process among nurses in university of Calabar teaching hospital, Cross River State, Nigeria ,2016, showed that from 200 study participants, 48 (24%) of the nurses have a great strain due to a symptomatic manager. One hundred fifty seven (78%) of the nurses were dissatisfied with their job; out of which 66 (42%) were dissatisfied due to the patient workload .The study showed that 131 (83.4%) nurses reported that dissatisfied had affected the implementation of nursing process (6)

A study conducted on the application of nursing process in pediatric care and the factors associated with its implementation at Korle-Bu Teaching Hospital and princess Marie Louis Hospital in Accra, Ghana, 2017, showed that nurse to patient ratio, workload, availability of materials for documentation and lack of time were high challenges that impede the effective implementation of NP by 202(94%), 204 (94.9%), 191(88.8%) and 194(90.2%) respectively (13).

A study conducted on factors affecting implementation of nursing process nurses' perspective Mansoura University, Egypt, 2017 showed shortage of nursing staff, lack format for writing nursing process, lack of follow up by the management body, inadequate time lack of attention by authorized body about the importance of nursing process and lack of clear instruction for the implementation of nursing process by the authorities were the challenges faced by nurse in the application of nursing process (10).

A study conducted on Nurses knowledge, Perspectives and Practice of the nursing Process in Two Public Hospitals in Kenya, 2017 showed that lack of resources and increased workload were the major inhibitors of the nursing process utilization (31).

A study conducted on the assessment of factors affecting implementation of NP in selected governmental hospitals, Addis Ababa, Ethiopia, 2011 showed that out of the study participants, one hundred five (54.7%) of the respondents have had anxiety from nurse to patient ratio and 54(28.1%) nurses faced equal burden from rude physician and unsympathetic manager with. From the total respondents 104 (54.2%) of them said the dissatisfying aspect of their job was caring for so many patients followed by rules being made up without staff or residents in mind 79(41.1%) and useless paper work 40 (20.8%) and new reporting system 31(16.1%). From those dissatisfied 95 (49.5%) due to their profession. One hundred forty (72.9%) were working in a stressful working environment, 31(16.1%) were working in a disorganized working environment the rest 21(10.9%) respondents explained their work place is negligent at a time. (20)

As study conducted on The Implementation of Nursing Process and Associated Factors among Nurses Working in Debremarkos and Finoteselam Hospitals, Northwest Ethiopia, 2013 showed that availability of necessary equipment for patient care were three times more likely to implement nursing process than inadequate one. Nurse who have orientated upon joining the respective hospitals were more likely to implement nursing process (32).

A study conducted in selected hospitals of Central and Northwest zones of Tigray Region, Ethiopia, 2015 showed that nurses who had consistent material supply were 95.1% more likely to implement the nursing process than those nurses with no consistent material supply were. Nurses who worked in a very good atmosphere were 99% more likely to implement nursing process than those who worked in a stressful work place when adjusting for all other factors. Nurses who did not have high patient load were 98.7% more likely to implement the nursing process than nurses who had a high patient load when adjusting for all other factors. There was 105(76.5%) nurse turnover in the hospital. Out the turnover, 32.7% leaving to work for higher paying non-governmental organizations which is a leading reason for the nurse turnover and 75.2% nurses responded that nurse turnover had affected their nursing process implementation (8)

A study conducted on The Practice of Nursing Process and Associated Factors among Nurses Working in Public Hospitals of Harari People National Regional State, Eastern Ethiopia, 2017 showed that nurses who were working in favorable working environment were 70% more likely to practice nursing process than those were in negligent working environment (4)

### *1.2.3. Nurses Perception on Patient Related factors*

A study conducted on the assessment on factors affecting implementation of NP in selected governmental hospitals, Addis Ababa, Ethiopia, 2011 showed that out of the study participants ninety four (49%) of them responded that patients were discharged before they receive full care due to long time required to get the service. Ninety-two (47.9%) of the respondents informed that patients were discharged early before they get relief from their problem due to poor economical income. Thirty seven 37(19.3%) of respondents have informed that patients were discharged early before they were receive the appropriate management by assuming that they were not cured of their illness (20).

A study conducted on The Implementation of Nursing Process and Associated Factors among Nurses Working in Debremarkos and Finoteselam Hospitals, Northwest Ethiopia, 2013 showed that cooperative patients were three times more likely to get nursing process than those who were not. Patients with no complication were about six times more likely to get nursing process than those who were complicated (32).

A study conducted in Arbaminch University, Ethiopia, in 2015, on Determinants towards Implementation of Nursing Process showed that early discharge and due to lack of cooperation and economic status of patient to buy material for nursing care, were negatively associated with implementation of nursing process (17)

A study conducted on The Practice of Nursing Process and Associated Factors Among Nurses Working in Public Hospitals of Harari People National Regional State, Eastern Ethiopia:2017 showed that long waiting time to get the service, lower economic status of patients poor understanding of modern medicine and the principle of nursing process and discrimination of a patient had influenced the practice of nursing process .In patients who didn't discharged before completing planned intervention nursing process was practiced 3 times more likely as compared to patients discharged early(4).

### 1.3. Conceptual Framework

This conceptual framework is adapted after reviewing different literatures. This framework shows that nursing implementation is affected by different factors related to nurse's knowledge and attitude, socio-demographic factors, institution related factors, nurses perception on patient related factors (20,38).

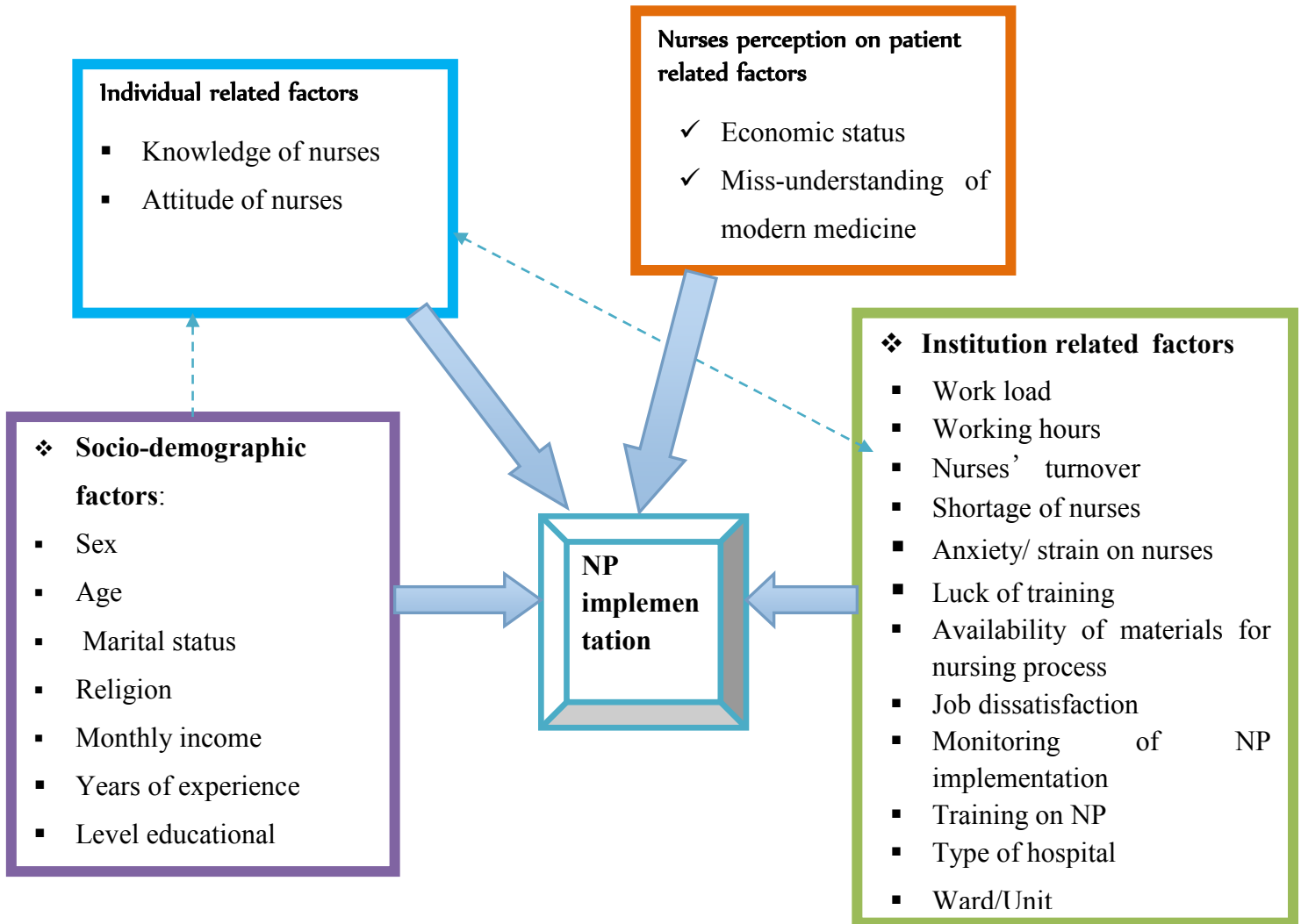


Figure 1: A conceptual framework showing the factors affecting implementation of nursing process in Public Hospitals of West Wollega Zone-from nurse's perspective, March 2019

The broken lines show the multi-collinearity effect of one variable on the other (has no other meaning according to this paper) (eg. from socio-demographic variables: educational level of nurses has positive or negative effect on knowledge and attitude of nurses) (4, 8, 10, 11).

## **CHAPTER THREE: OBJECTIVES**

### **3.1. General objective:**

To assess nursing process implementation and associated factors in public hospitals of West Wollega Zone; Oromia Regional State, West Ethiopia-from nurses perspective,2019.

### **3.2. Specific Objectives:**

- a) To determine the status of nursing process implementation
- b) To identify factors that affects the implementation of nursing process.



## **CHAPTER FOUR: METHODS AND MATERIALS**

### **4.1. Study area and period**

The study conducted in four public hospitals of West Wollega Zone Oromia Regional State, West Ethiopia from March 04 – March 29, 2019. The West Wollega Zone capital town, Gimbi, is located 441 km away from the capital city from Addis Ababa, West Ethiopia. The zone has the total population of 1,872,061, has 19 Woreds, 3 Town Administration, and 542 kebeles, and has an estimated land area of 13,436 square kilometer. The socio-economic activities of the local communities are farming involving the cultivation of staple crops (Maize, Teff, Coffee and Sorghum). The zone has a weather condition of Dega, Weyine Dega and kola.

In the zone there were five public hospitals (2 general ,3 primary), two general not -for profit NGO hospitals, 67 health centers, 488 health posts, 2 private specialty clinics, 22 medium clinics, 212 primary clinics, 36 rural drug venders and 21 drug store. According to the data taken from West Wollega Zonal Health Department, the five public hospitals are: Gimbi General Hospital which is in the zonal town and has nursing workforce of 50. The second one is Nedjo General Hospital, which is 516 km from Addis Ababa and 75 km from the zone and has nursing workforce of 62. The third one is Mendi primary hospital, which is 591 km from Addis Ababa and 150 km from the zone and has nursing workforce of 39. The fourth one is Begi primary hospital, which is 701 km from Addis Ababa and 260 km from the zone and has nursing workforce of 36. All of them were located to the West of the zone on the main road to Assosa. The fifth one is Bube primary hospital, which is 491 km from Addis Ababa and 50 km from the zone to the South West direction and has nursing workforce of 15. The total nursing workforce of the study area was 187.

All the hospitals were giving medical, surgical, gynecological, pediatrics services except Bube primary hospital, which established recently, not equipped and so not giving full services. (Data taken from 2011 EFY, Zonal Health and Agricultural Offices) (39).

## Study Area Map

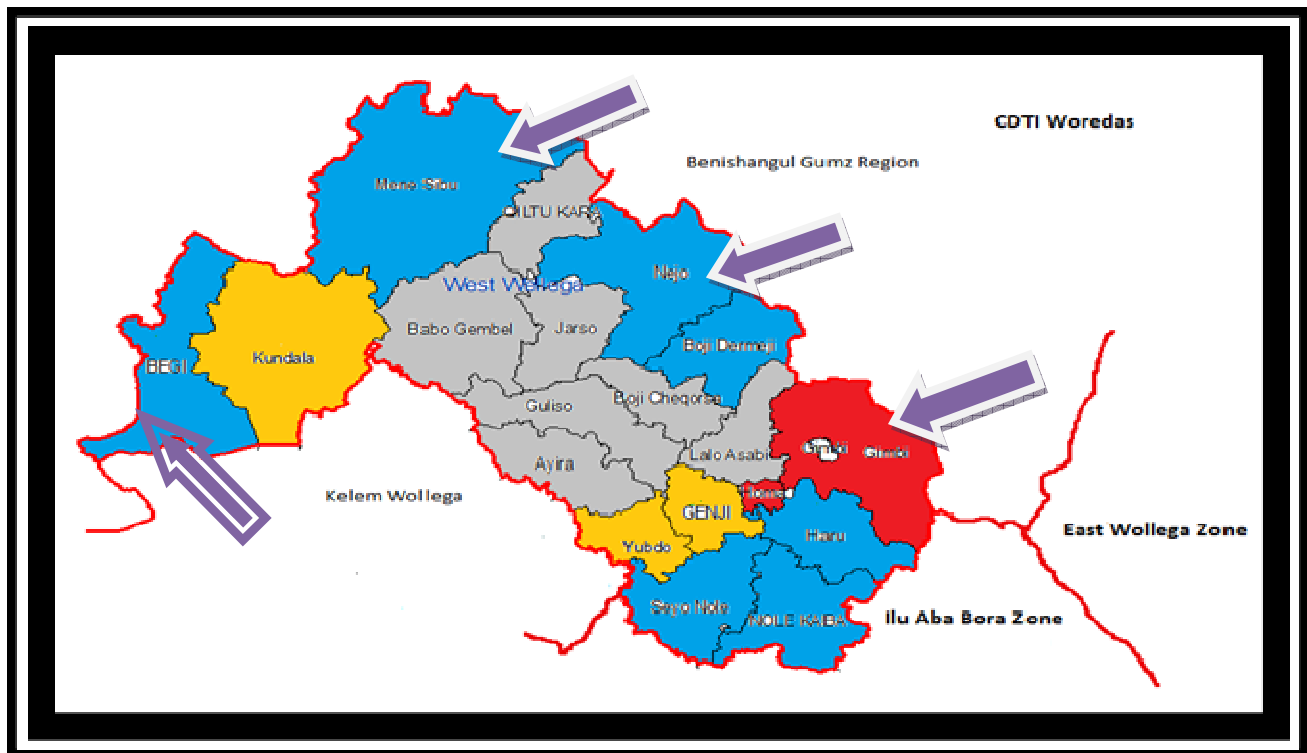


Figure 2: Map Showing Study Hospitals on nursing process implementation in West Wollega Zone, March 2014

### 4.2. Study Design

Facility based cross-sectional study design with quantitative and qualitative data collection method were employed.

### 4.3. Population

#### 4.3.1. Source and study population

The source and study population were all nurses who were working in public hospitals of West Wollega Zone; Oromia Regional State; West Ethiopia.

#### 4.3.2. Inclusion and Exclusion Criteria

##### Inclusion Criteria

All nurses (BSC & Diploma nurses) who have been working in the hospitals for greater than six months were included in the study.

Nurses who were working in Medical, Surgical, Pediatric wards and OPD of the hospitals were included in the study

### **Exclusion Criteria**

Nurses on maternity leave during the study period excluded.

Nurses who were working in maternity/obstetric wards also excluded; because in these departments nursing process was not started totally.

## **4.4. Sample size and sampling Procedure**

### *4.4.1. Sample size determination*

#### **Quantitative Method:**

All the nurses in the study area; 187, were taken as study participants (34)

#### **For patient medical record review using checklist:**

The sample size for the medical records in each hospital was determined purposively as it is to support the practice/implementation of NP, taken by self-administered questionnaire. For this purpose, two hundred patients card reviewed, that is fifty cards per hospital.

#### **For qualitative method**

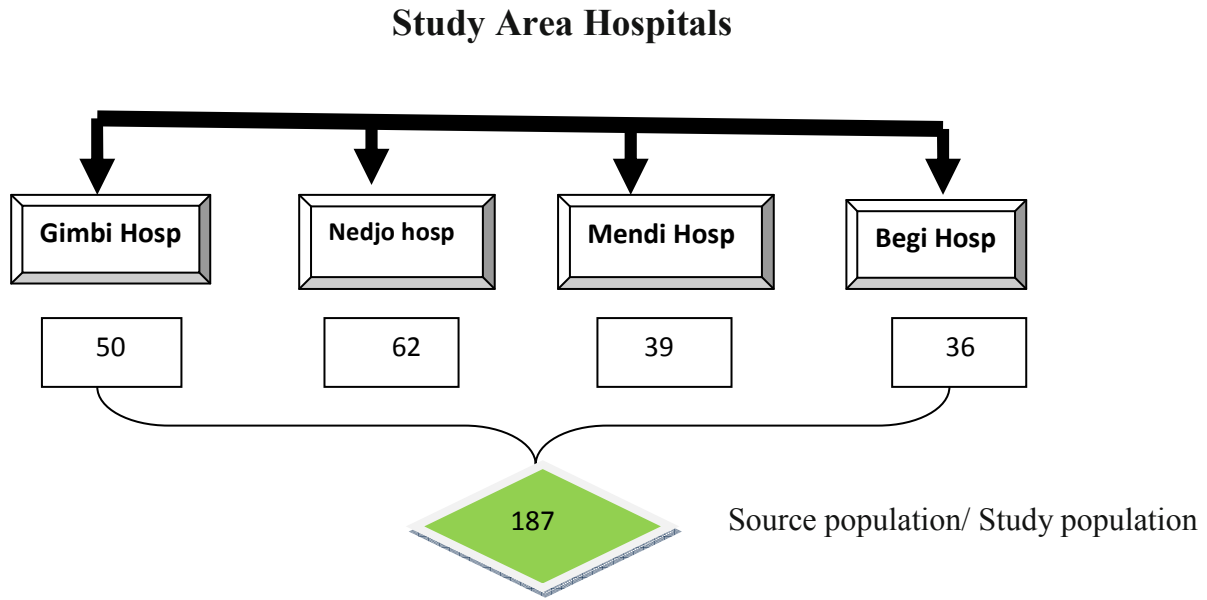
Twelve informants (hospital managers (CEO), matron and head nurses-who were not included in the quantitative study) interviewed about factors affecting the implementation of nursing process.

### **4.4.2. Sampling technique**

#### **For quantitative method**

Out of five hospitals existing in the zone, Gimbi General Hosp, Nedjo General Hospital, Mendi Primary Hospital and Begi Primary hospital, selected purposively. Bube Primary hospital was a newly established hospital and not giving full services and has few nurses, so excluded from the study.

All nurses found in each hospital taken as the study participants by census (34)



**Figure 3: A schematic representation of sampling procedure for Quantitative data of the study hospitals in West Wollega Zone, March 2019.**

**For patient medical record review** using checklist, two hundred patients’ medical record (MR) reviewed. Then the MRs selected by consecutive sampling of daily patient discharge from each hospital up to the reach of the required sample size to check the level of the nursing process implementation with the five steps as a supportive evidence for the NP implementation questionnaires. The medical records was reviewed immediately after patient discharge just in the ward or nursing station before it was returned to the central medical record unit (35).

**For qualitative method**

Twelve key informants (managers, matron and head nurses) selected purposively for an in-depth interview about factors affecting the implementation of nursing process. Sample size determined by information saturation.

**4.5. Data collection tool and procedures**

**4.5.1. Data Collection Instruments**

The study employed quantitative and qualitative method of data collection

**For quantitative Method:**

Quantitative data was collected using structured self-administered questionnaire. The structured English version was adapted from previous studies in the literature reviews (4, 8, 11, 17, 20, 22, 24, 36, and 37), modified, and added some questions appropriate to this study.

The questionnaire has 5 main parts: Part I: about nurses' socio demographics (7 items), part II: nurse related questions: knowledge and attitude of nurses (31 items), part III: Nursing process implementation related questions (23 items related to NP five steps), part IV: work place related questions (15 items), part V: Nurses perception on patient related questions (3 items). The attitudes questions was measured by Likert five-point scale from strongly agree to strongly disagree, and NP implementation (practice) questions was measured by Likert three-point scale; never, sometimes and always (13,25)

**For patient medical record review** to check the implementation of nursing process as a supportive evidence, a checklist which contains (7 items) was used (11, 37, 24, 36). The checklist was adapted from different literature and national nursing standard guideline.

**For Qualitative Method**

Interview-guided questions prepared to guide an in-depth interview. Questionnaire includes six questions about factors affecting implementation of nursing process.

**4.5.2. Personnel**

Six BSC nurses assigned two of them as supervisors and the rest as data collectors. The data collectors were collected the data from the patient medical record using checklist as self-administered questionnaires filled by the respondent him or herself. The principal investigator carried out an in-depth interview.

**4.5.3. Data collection Methods**

To collect data from respondents:

First, respective hospitals notified by letter from West Wollega Zone Health office and copy of letter from Jimma University to have legal permission.

Then data collectors and supervisors were oriented on how to use the tools, and then copies of the questionnaires given to them based on the number of respondents in each respective hospital. Then the data collectors and supervisors were distributed the questionnaire to each respondent by registering the name of the respondent after they have taken consent from each respondent. The

respondents given an average of five to seven days to fill the questionnaires during the data collection period.

Data reviewed from patient card collected by data collectors and liaison officers of each hospital who were responsible for admission-discharge case team. The data was collected on daily bases consecutively immediately after patient discharge. The collection done using checklist prepared for this purpose based on the five steps of nursing process. The collection was on regular working hours and days after patient discharge (no discharge during night and on weekends). Data collection strictly supervised.

The qualitative data collection carried out by the principal investigator; taken from key informants in each hospital who knows the details of the subject matter (CEO, Matron and Ward Head nurses). The data collection made using sound recording by mobile phone. Collection made on regular working hours at the convenient time for the interviewees.

The data collection period was first started on two hospitals and later on the rest of the hospitals to make ease for supervision within the expected data collection period (March 04-March 29/2019). Finally, the paper collected from each by supervisors.

## 4.6. Variables of the Study

4.6.1. **Dependent Variable** :Nursing Process implementation

### 4.6.2. **Independent variables**

#### **Socio-demographic factors**

- Sex
- Age
- Marital status
- Religion
- Monthly income
- Years of experience
- Level educational

#### **Nurses Related factors**

- knowledge
- Attitude

#### **Institutional related factors**

- Ward/unit
- Type of hospital
- Name of the hospital
- Work load
- Working hours
- Nurses' turnover
- Availability of nurses
- Anxiety on nurses
- Lack of training
- Availability of materials and equipment
- Job dissatisfaction
- Long waiting time to get the service
- Monitoring of NP implementation

#### **Nurses perception on patient related factors**

- High patient turn over due to:
- Economic status
- Miss-understanding of modern medicine

## 4.7. Operational Definition

**Nursing process implementation:** Measured by three-point Likert scale items; never, sometimes, and always; based on the five steps of nursing process. It contains 23 items with the minimum score of 23 and max score of 69. Based on this, participants scored above the mean

value ( $\geq$ ) were taken as nursing process implemented, where as those scored below the mean value were taken as nursing process not implemented (25, 13).

$$\% \text{ SMS} = \frac{\text{Actual mean} - \text{potential minimum}}{(\text{Potential maximum} - \text{potential minimum})} * 100$$

This result supported with the data, taken from the patient medical record review-using checklist. Operationally, defined as: nurses who perform nursing process using the five steps of nursing process (assessment, diagnosis, planning, implementation and evaluation) taken as nursing process implemented, and those who performed less than five steps (partial) of nursing process was taken as nursing process not implemented (11, 37, 24, 36).

**Knowledge of Nurses:**-Nurses awareness about nursing process. To assess the knowledge of nurses on nursing process, they expected to answer 16 knowledge related items, which contains multiple choices, true false, fill in the blank and yes/no questions

Highly knowledgeable nurses those answered  $\geq 80\%$  of the questions, moderately knowledgeable nurses those answered in between 55-79.9%, and low knowledgeable nurses those scored  $<55\%$ . For the purpose of analysis, highly and moderately knowledgeable nurses combined in to one and then categorized as knowledgeable and not knowledgeable nurses (4, 8, and 20).

**Attitude:** To assess the attitude of participants, they asked to answer 15 attitude related questions, which were a five point Liker's scale (from strongly agree-strongly disagree). Study participants who were scored above the mean value ( $\geq$ ) of attitude questions categorized as having favorable attitude (good attitude), whereas, those who scored less than the mean value ( $<$ ) of the attitude questions categorized as having unfavorable attitude towards nursing process implementation (poor attitude) (4,14,38).

**Workload:** Increased working activity of nurses over their capacity due to high patient load ( $>10$  patients per nurse per day) (20).

**Patient turnover:** A patient visiting hospitals for getting health care; but left before receiving complete care (20).



## **4.8. Data Processing and Analysis**

### **Quantitative Data**

After data collection, all the questionnaires were checked visually, cleared, coded and entered into the computer using Epi data version 3.1 and was analyzed by Statistical Package for Social Science (SPSS) Version 25 software. Binary logistic regressions run to identify statistically significant independent variables. Both bivariate and multivariate logistic regression model fitted. The goodness of fit model was checked by the Hosmer-Lemeshow statistic with the p – value of  $>0.05$  and it was found to be 0.256. The data was summarized using descriptive statistics such as mean, frequency and percentage to describe the study population in relation to relevant variables. The independent variables; which were included in the multivariate logistic regression, was selected by doing a bivariate logistic regression with a cutoff point of p-value less than 0.25. Multivariate logistic regression was used to determine the relationship between independent and dependent variables. The statistical test like, odds' ratio (crude & adjusted) was used to measure the association. Then these variables with p-value of  $<0.05$  at 95% confidence interval (CI) was declared as statistically significant (4, 8, 32).

### **Qualitative Data**

The principal investigator took data from interviewees by sound recording using mobile phone by. It transcribed and back translated to English version, by senior experts, and the ideas rearranged according to their thematic area manually. Lastly, information linked and analyzed to its congruence with data obtained through self-administered questionnaires (20).

Data from patient document review using checklist summarized descriptively as a supportive evidence for the implementation of nursing process based on the five steps of NP under the nursing process implementation section.

## **4.9. Data quality management**

After data collection, all the questionnaires checked visually, cleared, coded and entered into the computer using Epi-data 3.1 and exported into Statistical Package for Social Science (SPSS) Version 25 software for further analysis. Any error identified at this time corrected by revision of the original questionnaire (4).

Senior experts translated the English version questionnaire in to local language (Afan Oromo).

One translates it into Afan Oromo and the other person reverses it in to English.

Supervisors and data collectors were oriented for one day on the objective and the content of the instrument before the actual data collection period, which was from March 4 to March 29, 2019.

Pre-test carried out on the 10 % (18 nurses) of the sample size on Dembi Dolo General Hospital to check the consistency of the translated questionnaire. Reliability or internal consistency was checked by Cronbach's Alpha at a value of greater than 0.7(8). And it was found to be 0.721.

The principal investigator gave out copies of the questionnaire to the respondents in the four respective hospitals for self-administered questionnaires and check list for medical record review. The principal investigator carried out the open-ended questions for an in-depth interview. Upon filing the questionnaires by nurses, supervisors checked its completeness, the paper was collected and ready for computer entry for analysis, and retrieval of the answered questionnaires was in twenty (20) days and collected by supervisors. The principal investigator was oversees the overall quality of the data.

#### **4.10. Ethical consideration**

Ethical approval obtained from the Ethical Review Committee of Institute of Health, Jimma University Department of Health Policy and Management. The letter submitted to West Wollega Zone Health Department (ZHD). Then ZHD wrote the letter to each respective hospital. Written consent obtained from each nurse prior to data collection. Confidentiality of information assured throughout the study period (2, 8)

#### **4.11. Dissemination plan**

The result of this study submitted to the four respective hospitals (Gimbi, Nedjo, Mendi and Begi hospitals), West Wollega Zonal Health Department, Jimma university Department of Health Policy and Management, Oromia Regional health Bureau, and other NGO hospitals, presentation on scientific conference and considering publication after defense and accepted by Jimma University Research project.

## CHAPTER FIVE: RESULTS

### 5.1. Socio demographic characteristics of the study participants

A total of 187 participants were estimated to be enrolled in the study, of which 183 nurses gave complete response making response rate of 97.8%. Four (2.2%) nurses were not participated in a study, 2 of them due to maternity leave and the other 2 were left the organization a month before data collection. Out of the study participants (100(54.6%) of them were males. The age of the respondents was within the range of 20-40 years and more than half of them (103(56.4%) were in the range of 25-29 years. The mean and standard deviation of the age of the respondents were 27.185 and 10.2 respectively. The monthly income of the respondents were between (2682 – 7999 Ethiopian birr) of which almost one –third of them (66(36.1%) had the monthly income of between 2682-3999. Almost half (91(49.7%) of them have work experience of 1-5 years, and more than half (95(51%) the study participants have educational level of BSc degree and above.. See table 1 below.

Out of the total 12 key informants (three of them were hospital CEO's, three of them were Matron and the rest three were ward head nurses) supposed to be included in the study, nine of them were participated in an in-depth interview. All of them were males and have the educational level of BSc and HOs, and with age ranging from 29 to 42 years.

**Table 1: The frequency distribution of respondents socio- demographic characteristics on the implementation of nursing process in public hospitals of West Wollega Zone- from nurses' perspective, March 2019 (n=183)**

No	Variables	Frequency		
		Number	Percent	
1	Sex of participants	Male	100	54.6
		Female	83	45.4
2	Age of participants	20-24	41	22.4
		25-29	103	56.3
		30-34	31	16.9
		35-40	8	4.4
3	Religion of participants	Protestant	128	69.9
		Orthodox	33	18.00
		Muslim	19	10.4
		Wakefata	3	1.6
4	Marital status	Married	118	64.5
		Single	64	35.00
		Divorced	1	0.5
5	Monthly income(gross)	2682-3999	66	36.1
		4000-4999	64	35.00
		5000-5999	29	15.80
		6000-6999	19	10.40
		7000-7999	5	2.7
6	Year of experience	1-5 years	91	49.7
		6-10 years	66	36.1
		11-15 years	20	10.90
		>16 years	6	3.3
7	Level of education	Diploma	88	48.1
		BSc degree or above	95	51.4

## 5.2. Knowledge Related Results

To assess the knowledge of participants on nursing process implementation, participants asked sixteen knowledge related questions about nursing process. For example, the respondents asked to mention the difference between actual and potential nursing diagnosis by case scenario, types of nursing diagnosis, the difference between nursing diagnosis and medical diagnosis, components of nursing process by its logical order. The finding showed that few of them gave correct answer as 49 (26.8%), 55(30.1%), 76(49.6%) and 93(50.8%) respectively.

In summary, out of study participants 79(43.17%), 85 (46.45%) and 19(10.38%) of the respondents were highly knowledgeable, moderately knowledgeable and not knowledgeable respectively.

Regarding the overall knowledge assessment of nurses, 164(89.6%) of them were knowledgeable and 19(10.38%) of them were not knowledgeable (moderately knowledgeable and highly knowledgeable were combined together for the purpose of analysis).

From an in-depth interview, majority of the key informants said, *“Nurses have no adequate knowledge to implement nursing process due to different factors”*. For example, a 27 years male nurse said, *“knowledge of nurses on nursing process implementation is very essential to implement it according to the standard. But its implementation varies from person to person based on the knowledge they have concerning it, nurses have no adequate knowledge”*. Similarly, two of the informants with the age of 26 and 29 years and 6 years work experience each said, *“Nurses have no additional training on nursing process except that they have taken it in school but as time goes it can be forgotten”*. Another key informant who is 28 years old male nurse with work experience of 9 years said, *“Currently nurses have not that much lack of knowledge to implement nursing process, but they do not want to practice it as it adds work burden”*.

From the educational level of view, three of the ward head nurses whose age was from 26-31years with work experience of 6 to 9 years, said *“Diploma nurses have difficulty in implementing nursing process, because the course was not included in Diploma nursing curriculum. So practically, we observed that BSc nurses apply nursing process than Diploma Nurses”*

Table 2: The frequency distribution of nurses' knowledge in nursing process implementation in Public Hospitals of West Wollega Zone, West Ethiopia -from nurses' perspectives, March 2019

N o	Variables	Incorrect Answer		Correct Answer	
		No	%	No	%
		1	Information about nursing process	77	42.1
2	Nursing process is the systematic collection of patient care data for determining nursing care needs a pt	44	24	139	76
3	Steps nursing process	67	36.6	116	63.4
4	Components of nursing process(by order)	90	49.2	93	50.8
5	An organized and systematic process of collecting information(subjective & objective data)	55	30.1	128	69.9
6	Type of nursing diagnosis	128	69.9	55	30.1
7	Impaired Skin Integrity related to prolonged immobility secondary to fractured pelvis	134	73.2	49	26.8
8	A clinical judgment of responses, from the individual or family to the to current or potential health problems	61	33.3	122	66.7
9	Type of nursing diagnosis better to solve a patient's problem with diabetes mellitus chronic complication in the future	48	26.2	135	73.8
10	The stage at which you intervene for the actual problem of a patient	49	26.8	134	73.2
11	Implementation phase is the last step in nursing process.	44	24	139	76
12	Evaluation step of NP is the step at which you measure pt. progress.	8	4.4	175	95.6
13	Implementation of nursing process improves quality of nursing care	13	7.1	170	92.9
14	Nursing process is a standard guideline in nursing profession.	6	3.3	177	96.7
15	Difference b/n nursing Dx and medical Dx	107	58.5	76	49.5
16	NANDA developed based on Gordon's 11 functional health pattern.	15	8.2	168	91.8

### OVERALL KNOWLEDGE

Variable	Frequency		Knowledge category		
	Number	Percent	Variable	Numbe	Percent
Not knowledgeable	19	10.38	Not knowledge	19	10.38
Moderately knowledgeable	85	46.45			
Highly knowledgeable	79	43.17	Knowledgeable	164	89.6
Total	183	100		183	100

### 5.3. Result Related to Attitude of Nurses on Nursing Process

Out of the study participants, majority of them (165(90%)) were either agreed or strongly agreed that nursing process enables nurses to provide quality nursing care to patients. Similarly, of the respondents more than two-thirds (144(78.6%)) of them either agreed or strongly agreed that nurses develop their critical thinking skill while applying nursing process. Again of the respondents (155(85%)) of them either agreed or strongly agreed that nursing process increases nurse to patient communication. Of the respondents (141(77%)) of them either strongly disagreed or disagreed that applying nursing process should be only for critically ill patients.

On the other hand, out of the study participants half of them (92(50.3%)) either agreed or strongly agreed that nursing process is hard to perform. Similarly of the respondents one-third (66(37.7%)) of them either agreed or strongly agreed that there is no enough time to apply nursing process during patient care. Again, one-third of the participants (63(34%)) of them either agreed or strongly agreed that nursing process is waste of time and exactly one-third (61(33.3%)) of them either agreed or strongly agreed that nursing process should be done by BSc and above nurses only.

From the attitude assessment, the standards mean score percentage score was 55.87. According to this, from the respondents (80(44.7%)) of them have scored above the mean and having favorable attitude, whereas (103(56.3)) of them scored below the mean and having unfavorable attitude towards the implementation of nursing process.

$$\text{SMSP} = \frac{\text{Mean score (raw)} - \text{potential minimum}}{\text{Potential maximum} - \text{potential minimum}} * 100$$

From the qualitative aspect of views, majority of the key informants have a positive or favorable attitude towards the implementation of nursing process. *“For instance, almost all of the key informants said that applying nursing process is important for the patient, the nurse and the hospital. It helps the patient to take quality nursing care, as quality of care increases patient progress increases and this decreases patient hospital stay and decreases patient and hospital cost. A 32 years male head nurse with work experience of 7 years said “NP helps the nurse to identify further patient problem and which helps the nurse to learn more and updates his/her knowledge”. Similarly another male nurse who was 28 years and with experience of 9 years said “Applying nursing process is a standard of nursing care and nurses job description, so every*

*nurse including me are expected to apply nursing process provided that he/she has a pre-service training or in-the service training”. In contrary to this, one of the key informant with the age of 30 years and work experience of 8 years said “Some nurses sometimes said that we have no time to apply nursing process as it needs extra time to deal with patients and also some nurses feel that writing all this steps takes long time. Additionally one nurse may care for more than 10 patients daily, from the patients’ one or two of them may be critical who need meticulous nursing care and attention .This can consume more of the time of the nurse. In such cases, applying nursing process is less likely. Three of the CEOs of the hospitals said, “Applying nursing process is now a day is one of the EHSTG chapters to improve quality of patient care and it is currently one of hospital evaluation criteria. So applying nursing process is mandatory and if we apply it well, it can increase our patient satisfaction and flow and then it increases our income”.*



**Table 3: Attitudes of nurses towards the implementation of nursing process Public Hospitals of West Wollega Zone; West Ethiopia-from nurses perspective, March 2019 (n=183)**

N o	Variables	Strongly Disagree(1)		Disagree(2)		Neutral(3)		Agree(4)		Strongly agree(5)		Mean	
		No	%	No	%	No	%	No	%	No	%	Raw	SMScP
1	NP enable to provide quality nursing care to patients.	4	2.2	5	2.7	9	4.9	59	32.2	106	57.9	4.41	85.25
2	Use of nursing care plans help a nurse to establish priorities of care	3	1.6	8	4.4	15	8.2	71	38.8	86	47	4.25	81.25
3	The implementation of NP should be for all patients.	7	3.8	11	6	19	10.5	65	35.5	81	44.3	4.10	77.5
4	Nursing process is only applied for critically ill pts.	88	48.1	53	29	10	5.5	19	10.4	13	7.1	1.99	24.75
5	Nurses develop their critical thinking skill while applying NP.	5	2.7	15	8.2	19	10.4	76	41.5	68	37.2	4.02	75.5
6	Nursing process is hard to perform.	26	14.2	36	19.7	29	15.8	73	39.9	19	10.4	3.13	53.25
7	Applying nursing process is an additional task for a nurse.	55	30.1	50	27.3	22	12	41	22.4	15	8.2	2.51	37.75
8	Nursing process should only be done by BSc and above nurses.	70	38.3	44	24	8	4.4	40	21.9	21	11.5	2.44	36
9	Nursing process is merely academic exercise than clinical practice.	55	30.1	43	23.5	34	18.6	35	19.1	16	8.7	2.53	38.25
1	No enough time to apply NP during pt. care.	42	23	53	29	19	10.4	46	25.1	23	12.6	2.75	43.75
1	Nursing process is a waste of time.	52	28.4	52	28.4	16	8.7	47	25.7	16	8.7	2.58	39.5
1	Implementing of NP needs a massive documentation.	16	8.7	44	24	36	19.7	60	32.8	27	14.8	3.21	55.25
1	The NP simplifies the awareness of pt. needs.	5	2.7	17	9.3	15	8.2	89	48.6	57	31.1	3.96	74
1	I think pts. will not like to be cared for using the NP.	48	26.2	67	36.6	27	14.8	30	16.4	11	6	2.39	34.75
1	NP increases nurse to patient communication.	10	5.5	11	6	7	3.8	53	29	102	55.7	4.23	80.75

## OVERALL ATTITUDE

Variable	Frequency		
	Number	Percent	Remark
Unfavorable attitude	103	56.3	Below mean score(<55.87)
Favorable attitude	80	44.7	Above mean score(>55.87)
Total	183	100	

### 5.4. Results Related to Nursing Process Implementation

#### Assessment

Above half of the study participants (108(59%)) reported that they did assessment for all newly admitted patients. Eighty-five (46.4%) took written nursing history using nursing format. Eighty (43.7 %) of them begun nursing assessment within 24 hours of admission. The overall nursing assessment implemented by more than half of the participants (101(55.2%)). (See table 4 and fig 3 below).

#### Diagnosis

Out of the study participants almost half of them (93 (50.8%)) formulated nursing diagnosis based on the assessment of the patient. Eighty (43.7%) of them included actual & potential health problems of a patient in diagnosis. One-third of the participants (62 (33.9%)) formulated nursing Dx based on NANDA classification. The overall nursing diagnosis implemented by (98 (53.6%)) of the participants. (See table 4 and fig 3 below).

#### Planning

Regarding planning, out of the study participants (109(59.6%)) of them developed nursing care plan for every admitted patient. Of this care plan, (76(41.6%)) of them did nursing care plan before carrying out intervention. In addition, nearly half of the participants (87 (47.5%)) set out goals for the solution of each of the problems identified. Eighty-one (44.3%) documented

nursing interventions of their patients. The overall planning implemented by (103 (56.3%) of the participants (See table 4 and fig 3 below).

### **Intervention**

Regarding intervention, out of the study participants (83 (45.7%) of them reassessed patient before implementing any intervention. Eighty-seven (47.5%) of them practiced explaining their plan to patients before any procedure. Eighty-five (46.4%) of them had a system of participating patients during nursing intervention. Eighty-six (47%) of them implemented nursing process both during day and nighttime. The overall intervention performed by (100 (54.6%) of the participants. (See table 4 and fig 3 below).

### **Evaluation**

Out of the study participants above half (94(51.4%) of the participants made a systematic evaluation of the effectiveness of care given to their patient. Eighty-three (45.4%) of them objectively measured patient progress towards the identified goals. In addition, the overall evaluation was made exactly by half (92(50.3%) of the participants. (See table 4 and fig 3 below).

In summary, the overall nursing process was implemented by half (92 (50.3 %) of the participants.

Qualitative findings showed that out of the nine key informants who interviewed, six of them asked that which steps of nursing process is difficult to apply. Except one, all of them replied, *“Diagnosis part is more difficult to apply than the other steps; because it needs the understanding of the NANDA classification which is based on the 11 functional health patterns. However, a 26 years nurse with 8 years’ experience said, “The assessment part is more difficult to apply than the other steps, because this part needs more time to deal with a patient to get detailed history to obtain subjective and objective data which is the bases for identifying the problem (diagnosis). A 29 years male head BSc nurse with experience of 10years said, “From practical point of view I have observed that Diploma nurses had difficulty in formulating nursing diagnosis.”*

Data reviewed from 200 patients’ medical record showed that the implementation of each steps of nursing process was almost similar with that of the data obtained through self-administered

questionnaires from the respondents except the assessment and evaluation parts. Out of 200 medical records reviewed, in (162 (81%) of them nursing process format was attached. One hundred twenty-three (61.5%) of them had nursing process assessment parts with subjective and objective data. Almost half (99(49.5) of the medical records reviewed had nursing diagnosis based on NANDA list and in (110 (55 %) of the reviewed cards ,there was nursing care plan based on the identified problem (Dx).One hundred five (52.5%) medical records had nursing intervention with its priority. Finally, only (86 (43%) of the cards had nursing process evaluation part. See fig 4 below.

Based on the definition of nursing process implementation, out of 200 medical records reviewed, only (83 (41.5%) of it had all the five steps of nursing process, which was the overall implementation.

The comparison of the two finding showed that, almost there was a similar results obtained on each steps of the nursing process except that there was a 9% difference between the evaluation part. This indicated that about 9% of nurses did nursing process but not completed all the steps (assessment to evaluation).See the following fig 4. In addition, the finding among the hospitals showed similar trend except that of Begi Hospital in which the data reviewed from the card was almost twice that of the respondents' report, which was verified and proved by cross checking. See fig. 5 below.

Table 4: Status of nursing process implementation in Public Hospitals of West Wollega Zone; West Ethiopia- from nurses' perspective, March, 2019(n=183)

N	Variables	Never		Sometime		Always		Mean	
		No	%	No	%	No	%	Raw	SMSP
<b>0</b>									
<b>A</b>	<b>Assessment</b>								
1	How often you took nursing assessment for all newly admitted patients	6	3.3	69	37.7	108	59	2.6	80
2	How often you took written nursing history using nursing format.	16	8.7	82	44.8	85	46.4	2.4	70
3	How often you began nursing assessment within 24 hours of admission.	18	9.8	85	46.4	80	43.7	2.3	65
4	I thoroughly assess objective and subjective data of a patient.	12	6.6	74	40.4	97	53	2.5	75
<b>B</b>	<b>Diagnosis(Dx)</b>								0
5	I formulate nursing diagnosis based on the assessment of the patient.	10	5.5	80	43.7	93	50.8	2.5	75
6	I include actual & potential health problems of a patient in diagnosis	11	6	92	50.3	80	43.7	2.4	70
7	I have arranged problem statements in order of their priority.	15	8.2	90	49.2	78	42.6	2.3	65
8	I formulate nursing Dx based on NANDA classification.	17	9.3	104	56.8	62	33.9	2.2	60
9	How often you took in to account patients 'opinions in the diagnosis?	27	14.8	105	57.4	51	27.9	2.1	55
<b>C</b>	<b>Planning</b>								0
10	I am able to develop care plan for every patient.	9	4.9	65	35.5	109	59.6	2.5	75
11	How often you write a care plan before carrying out interventions.	20	10.9	87	47.5	76	41.5	2.3	65
12	I incorporate all the problems identified in the nursing care plan.	14	7.7	85	46.4	84	45.9	2.4	70
13	I set out goals for the solution of each of the problems identified.	17	9.3	79	43.2	87	47.5	2.4	70
14	How often you have documented nursing interventions of your patient.	18	9.8	84	45.9	81	44.3	2.3	65

Table 4: (Continued)

N	Variables	Never		Sometime		Always		Mean	
		No	%	No	%	No	%	Raw	SMSP
<b>0</b>	<b>D Intervention</b>								0
15	How often you reassessed patient before implementing any intervention	13	7.1	87	47.5	83	45.7	2.4	70
16	I have practiced explaining my plan to patients before any procedure.	12	6.6	84	45.9	87	47.5	2.4	70
17	I have a system of participating patients during nursing intervention	15	8.2	83	45.4	85	46.4	2.4	70
18	How often you kept nursing documentation after patient discharged.	14	7.7	73	39.9	96	52.5	2.4	70
19	I carry out nursing care plan both day and night.	25	13.7	72	39.3	86	47	2.3	65
<b>0</b>	<b>E Evaluation</b>								0
20	I made a systematic evaluation of the effectiveness of care given.	11	6	78	42.6	94	51.4	2.5	75
21	How often you record the outcome of your evaluation in the care plans	11	6	90	49.2	82	44.8	2.4	70
22	I objectively measure patient progress towards the identified goals.	17	9.3	83	45.4	83	45.4	2.4	70
23	How often you have modified care plans according to the evaluation.	21	11.5	87	47.5	75	41	2.3	65
	Mean score							<b>54.7</b>	<b>68.9</b>

Then the final computed result, 50.3%, obtained by recoding the standardized mean value as above and below the mean (68.9 %) and then finding the frequency.

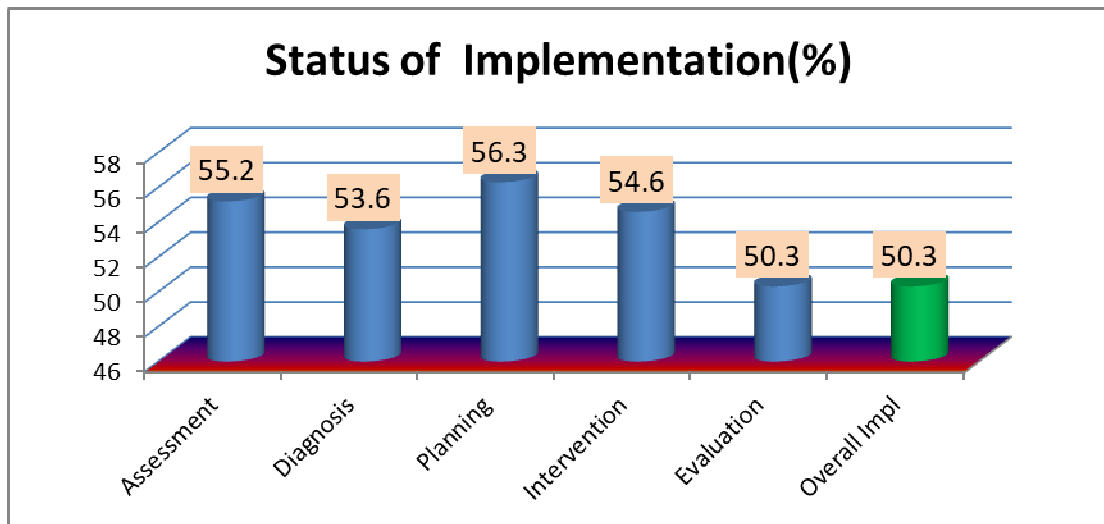


Figure 4: Summary of Nursing Process Implementation in Public Hospitals of West Wollega Zone-from nurses perspective, March 2019(n=183)

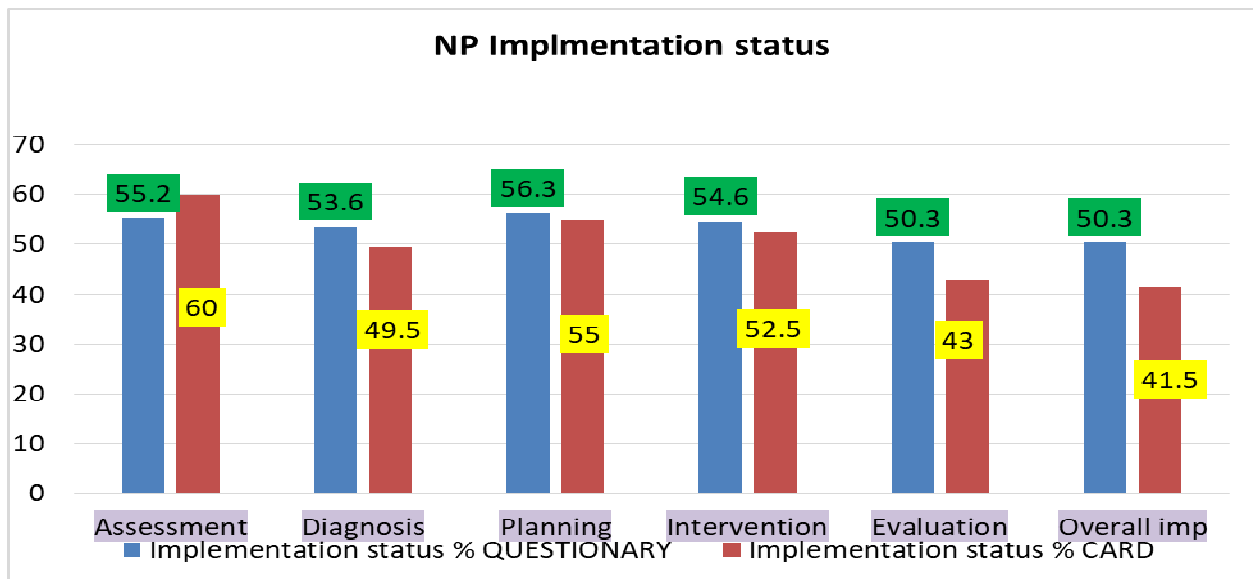


Figure 5: Comparison between the findings of NP implementation obtained through self-administered questionnaires and card review in Public Hospitals of West Wollega Zone-from nurses perspective, March 2019(n=183)

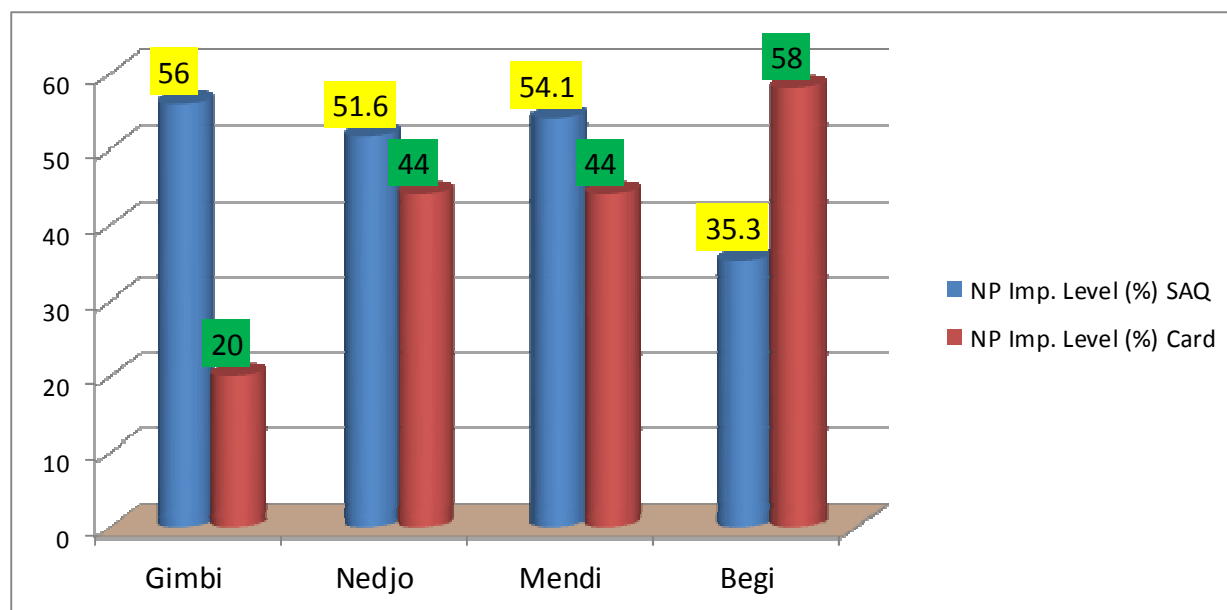


Figure 6: Comparison between the findings of NP implementation obtained through self-administered questionnaires and card review among the study hospitals, West Wollega Zone, March, 2019 (n=183)

### 5.5. Results related to Institutional factors affecting implementation of NP

Results concerning the institutional factors affecting the implementation of nursing process showed that out of the study participants (133(72.7%)) of them had working hours of less than 8 hours and only (50(27.3%)) had working hours of greater than 8 hours. Above half of the respondents (101(55.2%)) responded that there was enough equipment for the application of nursing process. Similarly almost half of the respondents (91(49.7%)) reported that there was consistent supply of materials like nursing format to apply nursing process. One hundred four (56.8) of them reported that there was enough nursing staff and more than half of nurses (100(54.6%)) of them were oriented while joining the current organization. Of the study participants (101(55.2%)) of them reported that there was a regular monitoring system of the implementation of NP by hospital management.

Concerning the work place of nurses, more than half (96(52.5%)) of the respondents said that their work place was disorganized, whereas half of them (92(50.3%)) were having conducive work place and (84(45.9%)), 76(41.5%) of it was stressful and negligent respectively. The study also showed that (114(62.3%)) of the nurses had great strain due unsympathetic manager, ninety-two (50.3%) of them had strain/anxiety due to coworkers does not do their task, eighty-four



(45.9%) misconception of physicians, (76(41.6%) harassing coworker and the rest (25(13.7%) of them had anxiety due to language barrier. The study also showed that nurses had dissatisfaction aspect of their job due to: poor management of hospital, , rules being made up without staff participation, having care for so many patients useless paper work by 106(57.4%),101(55.2%),94(51.4%),66(36,1%) respectively. One hundred five (57.4%) of them had training on nursing process.

Regarding the qualitative findings, interviewees asked about the challenges they face in applying nursing process in their hospital. Majority of the key informants said, *“Nurses have no additional training to implement nursing process properly”*. One of the key informant male nurse with the age of 28 years and work experience of 9 years said, *“Most nurses have no training to carry out nursing process as per the standard; because there was no in service training from the higher level or within the hospital to update nurses’ knowledge. The other problem in our hospital is hospital management is not concerned about the implementation of nursing process and so they poorly monitor this issue.* Another key informant male head nurse with the age of 30 years and work experience of 8 years said *“One of our hospital challenges is, there is high patient load; one nurse may follow more than 10 patients per day. So, a nurse cannot do nursing process for all of his/her patients”*. Concerning the role of management in the implementation of nursing process, two of the interviewee has responded similar responses *“Hospital management except supplying nursing formats, not monitor the implementation of nursing process and take it as if it is the work the nurse only”*. However, in contrary to this, one key informant nurse with the age of 27years and experience of 9 years said, *“In our hospital management body monitors nursing activities including the implementation of nursing process; so, I think the NP implementation status of our hospital may be better”*. Again one of the CEO of the hospital said, *“In our hospital as long as I know there is no challenge that hinders the implementation of NP and our management is very committed to implement as it is one of the hospital performance evaluation. So, in our assessment the NP implementation status of our hospital was good in the last quarter”*. This finding partly agreed with that of the responses from self-administered questionnaire in which there was a regular monitoring of the implementation of nursing process by management.

**Table 5: Institution related factors affecting the implementation of nursing process in public hospitals of West Wollega Zone, West Ethiopia- from nurses' perspective, March, 2019 (n=183)**

No	Variables	Response				
		Number	%	Number	%	
1	Daily working hours	8 hours	133		72.7	
		>8hours	50		27.3	
2	Number of patients get care per day by a nurse	<5 patients	33		18	
		5-10 patients	95		51.9	
		>10 patients	55		30.1	
3	Status of availability of equipment for NP	Not enough	82		44.8	
		Enough	101		55.2	
4	Training on NP	No	78		42.6	
		Yes	105		57.4	
5	Unit in which the participant is assigned	Medical	55		30.1	
		Surgical	48		26.20	
		Pediatrics	27		14.80	
		OPD	53		29.00	
6	Type of Hospital	Primary	70		38.3	
		General	113		61.7	
			<b>No</b>		<b>Yes</b>	
			Number	%	Number	%
7	Consistent supply of material for NP(eg. Nursing standard format)		92	50.3	91	49.7
8	Availability of nursing staff for NP as per the standard		79	43.2	104	56.8
9	Hospital management have regular monitoring system of the implementation of NP		82	44.8	101	55.2
10	Orientation while joining the current organization		83	45.4	100	54.6
11	Over time work		20	10.9	163	89.1
A	With payment		35	19.10	129	70.5
B	Without payment		160	87.4	4	2.2
12	Satisfied with payment		142	77.6	22	12
13	<b>The greatest anxiety/ strain on nurses work place</b>					
A	Unsympathetic manager		69	37.7	114	62.3
B	coworkers doesn't do their task		91	49.7	92	50.3
C	Harassing coworker		107	58.5	76	41.6

Table 5: (Continued)

No	Variables	No		Yes	
		Number	%	Number	%
D	Misconception of physicians	99	54.1	84	45.9
E	Language barrier	158	86.3	25	13.7
F	Rude physician	129	70.5	54	29.5
14	<b>Dissatisfying aspect of job</b>				
A	Rules being made up without staff Participation	64	35	101	55.2
B	Useless paper work	99	54.1	66	36.1
C	Having care for so many patients	71	38.8	94	51.4
D	Poor management of hospital	59	32.2	106	57.9
15	<b>Work place</b>				
A	Disorganized	87	47.5	96	52.5
B	Stressful	99	54.1	84	45.9
C	Negligent	107	58.5	76	41.5
D	Conducive	91	49.7	92	50.3
16	<b>Nurses' turnover</b>	83	45.4	100	54.6
14	<b>Cause for nurses' turnover</b>				
A	Low access to short/long training	81	49.3	91	49.7
B	Due to NGO's attractive payment	80	43.7	92	50.3
C	Less/no recognition for the work done	50	27.3	122	66.7
D	No or less carrier development	54	29.5	118	64.5

### 5.6. Nurses' perception on patient related Factors affecting implementation of NP

Out of the study participants, more than two-thirds of them (125(68.3%)) responded that there was patient turnover due to poor economic status to collect materials for their provision of care. Nearly half of the participants (88(48.1%)) said that patients turnover due to miss understanding of modern medicine. In addition, slightly more than one-third (69(37.7%)) of them responded that patients turnover was due to long waiting time to get the service and only (38(20.8%)) of the respondents said that patients turnover was due to discrimination.

Concerning the influence of patient turnover on nursing process, out the study participants almost all (172(94%)) of the respondents said that patient turnover had an influence on the

implementation of nursing process. Nearly two-thirds of the respondents (120(65.6%) of them responded that patients discharged before completing planned intervention. Of the respondents (105(57.4%) of them said that patients were not cooperative for their care. In addition, more than half (94(51.4%) of them responded that patients' turnover resulted in presentation of the patient with complicated problems which is difficult to manage.

From qualitative aspect, interviewees asked on how patient income affects implementation of nursing process in the hospital. Out of the nine key informants, majority of them said, *“Patient income affects the implementation of nursing process. If a patient is economically poor to buy the prescribed materials for his care, our plan of care may fail and the patient may be discharged before completing his/her care which makes our nursing process incomplete”*. On the other hand, three of the interviewees were CEO of the hospitals and said *“Patient income cannot influence the implementation of nursing process as past years. Because, currently in woredas, which are included in community, based health insurance (CBHI), those patients who came from those woredas treated equally with other patients without discrimination even though they are poor. In addition, in the HCF reform there is a fee waiver system to support the poor, which reimbursed by woredas administration. However, sometimes we face challenges from those patients who have no free service card from the woredas administration and those who did not enrolled in to CBHI scheme. In this case, patients may be failing to collect materials for their care and discharged early before completing their care which partly affects the implementation of nursing process”*.

**Table 6: Nurses perception on Patient Related Factors for the implementation of NP in public hospitals of West Wollega Zone- from nurses' perspective, March, 2019(n=183)**

N	Variables	Frequency			
		No		Yes	
		Number	%	Number	%
<b>A</b>	<b>Reason for patient turnover</b>				
1	Poor economic status to collect materials for their care (to buy drugs )	58	31.7	125	68.3
2	Long waiting time to get the service	114	62.3	69	37.7
3	Miss-understanding of modern medicine	95	51.9	88	48.1
4	Discrimination	145	79.2	38	20.8
5	Is patient turnover has influence on NP	11	6	172	94
<b>B</b>	<b>Influence of patient turnover on nursing care</b>				
1	Discharge before completing planned interventions	52	28.4	120	65.6
2	Not cooperative for their care	67	36.6	105	57.4
3	Lack of equipment	81	44.3	91	49.7
4	Patient present with complicated problems	89	48.6	94	51.4

## **5.7. Analysis of Factors Affecting Implementation of Nursing Process**

### **5.7.1. Bivariate Logistic Analysis with Selected Variables**

In the bivariate analysis of logistic regression, nineteen variables with p-value of less than 0.25 selected as candidates for multivariate analysis.

These variables were: educational level of nurses, knowledge of nurses, training of nurses on nursing process, monthly income, daily working hours of less than 8 hours, anxiety due to unsympathetic manager, availability of equipment, availability of nursing staff, regular monitoring of the implementation of nursing process by hospital management, orientation on nursing process implementation while joining an institution, overtime work with payment, conducive work place, nurses dissatisfaction due to poor hospital management, nurses turnover due to NGO's attractive payment, nurses' turnover due to low access of short/long training, nurses' turnover due to less or no recognition patients 'miss-understanding of modern medicine. See table 7 below.

**Table 7: Bivariate Analysis of Nursing process implementation in public hospitals of West Wollega Zone- from nurses' perspective, March, 2019(n=183)**

Variables	Category	Implementation of nursing process		Sig.	COR	95%CI. for COR	
		Not Implemented	Implemented			Lower	Upper
SEX	Male	46	45	0.161	1.52	0.846	2.73
	Female	37	55		1		
Age ( in year)	20-24	16	25		1		
	25-29	57	46	0.079	1.94	0.93	4.05
	30-34	14	17	0.601	1.29	0.5	3.31
	>35	5	3	0.23	2.60	0.55	12.43
Monthly Income	<4999	80	11		1		
	>=5000	50	42	0.000	6.11	2.88	12.96*
Experience	<5 years	49	42		1		
	>5 years	42	50	0.268	1.39	0.78	2.48
Level of Education	Diploma	67	18		1		
	≥ BSC	24	74	0	11.48	5.73	22.99*
Training	No	65	13	1			
	Yes			0	15.19	7.23	31.92*
Knowledge	Not knowledgeable	14	77		1		
	Knowledgeable	5	87	0.034	3.16	1.09	9.19*
Attitude	Unfavorable	42	49		1		
	Favorable	39	53	0.608	0.86	0.48	1.54
Marital status	Single	62	29	0.305	1.37	0.75	2.53
	Married	56	36		1		

**Table 7 :( continued**

Variables	Category	Implementation of nursing process		Sig.	COR	95% CI. for COR	
		Not implemented	Implemented			Low	Upper
Daily Working hours	<8hours	44	47	0.000	13.42	5.33	33.80*
	>8hours	86	6		1		
Availability of equipment	Not enough	62	29	0.000	7.69	3.97	14.94*
	Enough	20	72		1		
Availability of nursing stuff as per the standard	No	64	16	0.001	11.26	5.58	22.72*
	Yes	27	76		1		
Consistent supply of materials	No	54	37	0.015	2.07	0.15	3.74
	Yes	38	54		1		
Regular monitoring system of NPI by hospital mgt	No	64	27	0.000	9.75	4.92	19.31*
	Yes	18	74		1		
Orientation while joining the institution	No	62	29	0.000	7.23	3.75	13.94*
	Yes	21	71		1		
Overtime work with payment	No	39	52	0.000	5.00	2.39	10.43*
	Yes	12	80		1		
Satisfied with payment	No	67	24	0.784	1.13	0.46	2.79
	Yes	24	68		1		
Anxiety on nurse due to unsympathetic manager	No	72	19	0.001	0.22	0.12	0.43*
	Yes	42	50		1		
Anxiety on nurses due to coworkers doesn't do their task	No	19	50	0.065	1.73	0.97	3.11
	Yes	42	72		1		
Anxiety on nurses due harassing coworker	No	44	39	0.208	0.68	0.38	1.24
	Yes	34	58		1		
Dissatisfaction due to rules being made up without participation	No	60	31	0.059	0.56	0.31	1.02
	Yes	48	44		1		



**Table 7: (continued)**

Variables	Category	Implementation of nursing process		Sig.	COR	95% CI. for COR	
		Not implemented	Implemented			lower	Upper
Dissatisfaction due to useless paper work	No	49	42		1		
	Yes	28	64	0.002	0.38	0.21	0.69 *
Dissatisfaction due to poor mgt of hospital	No	68	23	0.000	3.37	1.80	6.29*
	Yes	43	49		1		
Work place stressful work	No	59	32		1		
	Yes	25	67	0.000	0.20	0.11	0.38*
Conducive work place	No	67	24		1		
	Yes	24	68	0.000	7.91	4.09	15.29*
Nurses' turnover due to low access of short/long training	No	61	30				
	Yes	35	57	0.000	0.30	0.17	0.55*
Nurse's turnover due to NGO's attractive payment	No	67	24	0.000	4.99	2.65	9.39*
	Yes	33	59		1		
Nurses' turnover due to less/no recognition for the work done	No	77	14	0.000	0.24	0.12	0.48*
	Yes	52	40		1		
Patient turnover due to poor economic to collect materials	No	66	25		1		
	Yes	59	33	0.223	0.68	0.36	1.27
Patient turnover due to miss-understanding of modern medicine	No	53	38	0.000	0.48	0.27	0.87*
	Yes	37	55		1		
Patient turnover due to discrimination	No	24	67		1		
	Yes	14	78	0.066	1.99	0.96	4.16

### 5.7.2. Multivariate logistic analysis with selected variables

In multivariate analysis, out of 19 variables, which were candidate for multivariate analysis, five variables were statistically significant association with p-value of less than 0.05 to the implementation of nursing process. See table 7 below. Hosmer and Lemeshow Test checked for model fitness, which was 0.334.

Nurses who were working in a hospital where management have a regular monitoring system of the implementation of nursing process were 6.872 times more likely to implement nursing process than nurse who were working in a hospital with no regular monitoring system for the implementation of nursing process when adjusting all other factors (AOR=6.872,95% CI=1.752-26.951), P-value: 0.006.

Nurses who had a daily working hours of less than 8 hours were 6.250 times more likely to implement nursing process than those who worked greater than 8 hours daily when adjusting all other factors (AOR =6.250, 95% CI=1.205-32.406), p-value 0.029.

Nurses who were not turnover due to NGO's attractive payment were 3.479 times more likely to implement nursing process than nurses who were turnover due to NGO's attractive payment when adjusting all other factors (AOR =3.479, 95% CI=1.035-11.695), p-value 0.044.

Concerning nurses' perception on patient related factors, in patients who had discharged before receiving complete care due to miss-understanding of modern medicine, nurses were 84.8 % less likely to implement nursing process than in patients who had not discharged due to miss-understanding of the modern medicine when adjusting all other factors (AOR=0.152,95%CI=0.037-0.625).P-value: 0.009.

Nurses who had a monthly income of greater than 5000 Eth. Birr were 8.398 times more likely to implement nursing process than nurses who had a monthly income of less than 5000 Eth. Birr when adjusting all other factors (AOR=8.398,95%CI=1.305-54.033).P-value: 0.025.

**Table 8: Multivariate LR analysis with selected variables affecting implementation of nursing process in public hospitals of West Wollega Zone- from nurses' perspective, March, 2019(n=183)**

Variables	Category	Implementation of nursing process		Sig.	AOR	95%CI. for AOR	
		Not implemented	Implemented			Lower	Upper
Level of education	Diploma	67	24		1		
	≥ BSC	18	74	0.338	2.05	0.47	8.86
Training	No	65	26		1		
	Yes	13	79	0.054	4.41	0.97	20.00
Daily Working hours	<8hours	44	47	0.029	6.25	1.21	32.41*
	>8hours	6	86		1		
Availability of equipment	Not enough	62	29		1		
	Enough	20	72	0.361	1.82	0.50	6.55
Availability of nursing staff as per the standard	No	64	27		1		
	Yes	16	76	0.529	1.61	0.37	7.04
Consistent supply of materials	No	54	37		1		
	Yes	38	54	0.610	0.69	0.17	2.82
Regular monitoring system of NPI by hospital mgt	No	64	27		1		
	Yes	18	74	0.006	6.87	1.75	26.95*
Orientation while joining the institution	No	62	29		1		
	Yes	21	71	0.626	1.40	0.36	5.49
Overtime work with payment	No	39	52		1		
	Yes	12	80	0.511	1.62	0.38	6.89
Anxiety on nurse due to unsympathetic manager	No	72	19		1		
	Yes	42	50	0.393	1.84	0.45	7.44
Dissatisfaction due to useless paper work	No	49	42	0.993	1.00	0.26	3.92
	Yes	28	64		1		
Dissatisfaction due to poor hospital management	No	68	23	0.412	0.57	0.15	2.18
	Yes	43	49		1		

\* Variables with significant association with the implementation of N P at 95% CI with p-value of <0.05

**Table 8: Continued**

Variables	Category	Implementation of nursing process		Sig.	AOR	95%CI for AOR	
		Not implemented	Implemented			Lower	Upper
Work place stressful	No	59	32	0.897	1.10	0.25	4.90
	Yes	25	67		1		
Conducive work place	No	67	24	0.055	1	0.97	15.26
	Yes	24	68		3.85		
Nurses turnover due to low access of short/long training	No	61	30	0.355	1.84	0.51	6.72
	Yes	35	57		1		
Nurse's turnover due to NGO's attractive payment	No	67	24	0.044	1	1.04	11.69*
	Yes	33	59		3.48		
Nurses turnover due to no or less carrier development	No	68	23	0.798	0.84	0.21	3.30
	Yes	53	39		1		
Nurses turnover due to less recognition	No	77	14	0.249	0.39	0.08	1.934
	Yes	52	40		1		
Patient turnover due to miss-understanding of modern medicine	No	53	37	0.009	0.15	0.04	0.63*
	Yes	38	55		1		
Knowledge of nurses	Low knowledge	14	77	0.446	1	0.05	3.58
	Knowledgeable	5	87		0.44		
Monthly Income (salary)	< 5000Eth.Birr	80	11	0.025	1	1.31	54.03*
	>=5000Eth.Birr	50	42		8.398		

\* Variables with significant association with the implementation of N P at 95% CI with p-value of <0.05

## **CHAPTER SIX: DISCUSSION.**

### **6.1. Overall implementation of nursing process**

The finding revealed that, among 183 nurses working in public hospitals of West Wollega Zone, almost half (92(50.3%)) of them implemented nursing process. This was low when evaluated with the current government attention towards quality. The reasons for this low performance may be due to; the associated factors like, lack of regular monitoring, nurses' turnover due to NGO attractive payment, low monthly income(salary), working hours greater 8 hours and patient discharge early before receiving complete care due to miss-understanding of modern medicine with the implementation of nursing process in the study hospital.

This finding is almost similar with study finding conducted on nurses who were working in public hospitals of Harari People National Regional State that shows 48.9% of them have practiced nursing process. Again, this finding was consistent with the study conducted in Addis Ababa among the selected governmental hospitals that shows 52.1% of the nurse were implemented nursing process (4, 19). The reason of their similarity may be due to similar study participants and recently studied.

On the other hand, this finding is higher than the finding of the study conducted in Debreworkos and Finoteselam Hospitals, Amahara Region, hospitals of Central and Northwest zones, Tigray Region and Arbaminch General Hospital in which the implementation status was 37.1%,35% and 32.7% respectively (32, 8,17). The reason for the difference in the implementation status may be due to the government concern in improving the quality of care through implementation of different hospital based reforms including NP currently, studied recently, and staff and equipment & mgt attention.

But this finding is lower than the study finding conducted in Tikur Anbessa Specialized Hospital Addis Ababa, Ethiopia, on Implementation Status of Nursing Process and Associated Factors Among Nurses which was 56.7%(38). The difference may be due to level of the hospitals, here in Ethiopia, Tikur Anbessa Specialized Hospital is a highly organized and facilitated hospital when compared to general and primary hospitals in the country.

It is also lower than a study conducted on Assessment of utilization of nursing process in a District Hospital in Ghana,2015, which shows the overall nursing process implementation was

77.13%. Additionally the implementation status of each steps of nursing process were: assessment 81.28%, diagnosis 72.88%, planning 74.84%, implementation 75.70%, evaluation 81.28% which was far higher than the current study (13).

Concerning the implementation status of each steps of nursing process, the current study revealed that the implementation status of nursing diagnosis was low. This shows that nurses were poorly implemented nursing diagnosis when compared to the other steps of nursing process. Again, the qualitative findings showed that, out of the key informants interviewed; majority of them said, “*Nurses have difficulty in formulating nursing diagnosis than the other steps*”. This finding was lower than that of the study conducted in Public Hospitals of Harari People National Regional State Ethiopia, except the evaluation step, which was 82.8%, 78.2%, 74.7%, 61.5% and 48.9% respectively. (4).

But the finding was higher than the study conducted in Bahir Dar University, Ethiopia, in which the findings of assessment, diagnosis, planning, implementation and evaluation was 57%, 57%, 46%, 38%, 36% respectively (25).

## **6.2. Factors Associated With the Implementation of Nursing Process**

The study showed that nurses who were working in a hospital where management had a regular monitoring system of the implementation of nursing process were 6.872 times more likely to implement nursing process than those who were working in a hospital with no regular monitoring when adjusting all other factors. This finding agreed with the study finding conducted on Implementation Status of Nursing Process and Associated Factors among Nurses Working in Tikur Anbessa Specialized Hospital Addis Ababa, Ethiopia, in which there was management support and 124 (82.1%) respondents mentioned that there was a regular monitoring and evaluation of the nursing process (38). It also agreed with the study finding conducted on Factors Affecting Implementation of Nursing Process: Nurses' Perspective, Mansoura University, Egypt, which shows that lack of follow up by the management body and lack of attention by authorized body about the importance of nursing process affected the implementation of NP (10).

The study also showed that there was nurses' turnover due to different reasons. Bases on this, nurses who were not turnover due to NGO's attractive payment were 3.479 times more likely to implement nursing process than nurses who were turnover. This finding is similar with a study

conducted in selected hospitals of Central and Northwest zones of Tigray Region, Ethiopia in which 32.7% of nurses leaving to work for higher paying non-governmental organizations, which was a leading reason for the nurse turnover(8)

Concerning nurses' perception on patient related factors, in patients who had discharged before receiving complete care due to miss-understanding of modern medicine, nurses were 84.8 % less likely to implement nursing process than in patients who had not discharged early due to miss-understanding of the modern medicine. This is similar with a study conducted on The Practice of Nursing Process and Associated Factors among Nurses Working in Public Hospitals of Harari People National Regional State, Eastern Ethiopia in which patients' poor understanding of modern medicine was one factor which affected the practice of nursing process(4).

## **6.1. LIMITATION OF THE STUDY**

Due to the nature of cross-sectional study, the finding out of the study period could be different.

Conducting of document review by consecutive sampling could have been lead to information bias (Hawthorne effect)

Social desirability bias in conducting qualitative finding

Excluding maternity ward nurses from the study



## **CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION**

### **7.1. CONCLUSION**

The study identified that the nursing process implementation in public hospitals of West Wollega Zone; Oromia Regional State, West Ethiopia was low (i.e.; 50.3%). Additionally, the finding from reviewed document shows that the implementation was very low.

There were many factors, which contributed for this low performance. Among the factors, which positively associated with the implementation of nursing process were: lack of regular monitoring system of the implementation of nursing process, daily working, monthly income of nurses, nurses turnover due to NGO attractive payment. Patients' miss understanding of modern medicine was negatively associated with implementation of nursing process.

## **7.2. RECOMMENDATION**

From the conclusion stated above, it was clear that the factors, which were affected the proper implementation of nursing process in these study hospitals be addressed by the concerned bodies.

### **Nurses**

Nurses should read different hospital based reforms including nursing chapter of the EHSTG and read different journals related to nursing process to develop their professional knowledge.

Nurses should practice nursing process on all of their patients as it increases their critical thinking skill on one side and as increases their quality of care and patient satisfaction on another hand. When performing nursing process, all steps should be gone through from assessment to evaluation to have complete information about individual patient nursing care.

### **Matron and Head Nurses**

As they are front line managers and have daily direct contact with nurses, they should monitor the implementation of nursing process on daily bases. They should perform close supervision and reviewing patient cards after 24 hours of admission whether a responsible nurse has started implementing nursing process or not.

Nursing round and nursing morning session has to be exercised as per the EHSTG guideline as it is one of learning and experience sharing forum for nurses as an opportunity which has a positive effect on developing nurse' knowledge and increases quality of care in the hospital.

### **Hospital Management**

All study hospitals should develop a system of regular monitoring for the implementation of nursing process.

Nurse supervisors should actively supervise the daily activities of nurses on nursing process implementation by reviewing patient cards and then coaches them accordingly.

Additionally, study hospitals have to make quality officers monitor the overall activities in the hospital including nursing process.

As miss understanding of the modern medicine by patients was one of the associate factors, hospitals should focus on patient education in the ward and at OPD level to increase the understanding of patients on modern medicine. This makes patients stay in the hospital, which help them get complete nursing care.

In summary, study hospitals have to stick to current hospital based reforms including nursing process implementation to assure quality healthcare delivery.

#### **West Wollega Zone Health Office**

As all hospital are primarily accountable to the Zone Health Office, the zone should supervise the implementation of all hospital reforms including nursing process implementation which is primarily determining the outcome of patients in a ward.

#### **Federal Ministry of Health and Oromia Regional Health Bureau**

The regional health bureau should do regular monitoring on the implementation of nursing process and even assess the impact of nursing process implementation in the provision of quality of care in hospitals based on the EHSTG reform and thinking of updating based on its feasibility. As daily working hours of less than eight hours were positively associated with nursing process implementation, the RHB and FMOH should consider an eight-hour working shift in the hospitals. Additionally, as monthly income of nurses and nurse turnover due to NGO attractive payment had a positive association on nursing process implementation, the FMOH should consider ways of incentivizing and retain nurses based on the countries' economy.

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## ANNEXES

### 1. Consent form

#### Greeting

Good morning/good afternoon, my name is \_\_\_\_\_. I am working as an investigator on the behalf of Mesfin Tasew, who is doing this thesis for the partial fulfillment of master's degree in Healthcare and hospital administration. I would like to thank you for accepting my invitation for this information session about the research project. The purpose of this research is to determine the level of nursing process implementation and associated factors among nurses in selected public hospitals of West Wollega Zone.

Nursing process implementation could be highly influenced by different factors that can lead to poor quality of nursing care, disorganization of the service, conflicting roles, medication error, poor diseases prognosis, readmission, dissatisfaction with the care provided, and increased mortality. These problems are manageable if a nurse can properly implement nursing process.

This study will identify how the factors affecting implementation of nursing process performed by nurses apply its influence on the nursing practice in Gimbi General Hospital, Nedjo General Hospital, Mendi Primary hospital and Begi Primary Hospital.

The results of the study will be used as base line information to design appropriate intervention strategies in nursing process implementation. I would like to assure you that all of your responses to our questions will be kept confidential throughout the study process using coding system that only managed by the investigator. Any of the information you provide will be used only by the research team and will, by no means, be revealed to a third party. I would like to assure you that your participation in this research will not affect your working condition. In addition, this study has an ethical clearance (legal permission).

You have full right to refuse, withdraw or completely reject part or all of your participation in the study. But I encourage your full participation as the answers you give on this form are very important to this study and help us to identify the gap and take the appropriate intervention by the authorized stakeholder. Do you understand the information correctly? If you have questions, you can contact. Are you volunteer to participate? Yes \_\_\_\_\_ No \_\_\_\_\_

Mesfin Tasew, Mob.0911966927, e-mail.mesbonket@yahoo.com

## 2. Research Questionnaires

### A. English Version

#### I. Questions Related to Socio-demographic Characteristics of Participants for the implementation of NP in public hospitals of West Wollega Zone, 2019

No	Variable		Make a tick on this column	Remark
1	Sex	Male		
		Female		
2	Age(in years)	20-24		
		25-29		
		30-34		
		>35		
3	Religion	Orthodox		
		Muslim		
		Protestant		
4	Marital status	Married		
		Single		
		Divorced		
5	Monthly income	2682-3999		
		4000-4999		
		5000-5999		
		6000-6999		
		7000-7999		
6	Working experience in years	1-5 years		
		6-10 years		
		11-15 years		
		>16 years		
7	Level of Education	Diploma		
		BSc degree		
		MSc		
8	Ward(unit) you are assigned in			
	Medical			
	Surgical			
	Pediatrics			
	OPD			
9	Type of Hospital			
	Primary			
	General			
10	Name of the Hospital you are			
	Gimbi			
	Nedjo			
	Mendi			
	Begi			

## II. Individual Related Factors

1. **Questions related to Knowledge** of nurses in implementation of NP in public hospitals of West Wollega Zone, March,2019

No	Variable	Response	Remark
1	Do you have any information about nursing process	Yes	
		No	
2	Nursing process is the systematic collection of patient care data for determining nursing care needs and evaluating patient's care outcome	True	
		False	
3	How many steps does nursing process have? A) 3 B) 5 C) 6 D) 4		
4	Mention the components of nursing process		
5	_____ is the organized and systematic process of collecting information(subjective & objective data) A) Assessment B) Evaluation B) Planning		
6	How many types of nursing diagnosis you now? A) 2 B) 3 C) 4 D) 5		
7	Impaired Skin Integrity related to prolonged immobility secondary to fractured pelvis, as evidenced by a 2-cm lesion on back  The diagnostic statement is a: A) Two-part nursing Dx(PE) B) Three-part nursing Dx(PES) C) One-part		

8	<p>_____ constitutes a clinical judgment of responses from the individual, family, or community to the vital processes or to current or potential health problems.</p> <p>A) Assessment B) Nursing Diagnosis C) Planning</p>		
9	<p>Which nursing diagnosis is better to solve a patient's problem with diabetes mellitus chronic Complication in the future?</p> <p>A) Actual nursing Dx B) Potential/risk nursing Dx C) Possible nursing Dx</p>		
10	<p>_____ is the stage at which you intervene for the actual problem of a patient</p> <p>A) Assessment B) Planning C) Implementation</p>		
11	Implementation phase is the last step in nursing process	True	
		False	
12	Evaluation step of NP is the step at which you measure pt progress.	True	
		False	
13	Implementation of NP improves quality of nursing care?	True	
		false	
14	Nursing process is a standard guideline in nursing profession	Yes	
		No	
15	<p>What is the difference b/n nursing Dx and medical Dx?</p> <p>A) Nursing diagnosis always focuses on human responses than diseases process B) Nursing diagnosis always focuses on the diseases than other human responses C)Both are the same</p>		
16	North American Nursing Diagnosis Association(NANDA	True	
	was developed based on Gordon's 11 functional health pattern approach	False	

2. **Questions related to Attitude** of a nurse for the implementation of NP in public hospitals of West Wollega Zone, March, 2019

No	Variable	Stron	Agree	Neut	Disagr	Strongly
		gly		ral	ee	Disagree
		5	4	3	2	1
1	NP makes nurses to provide quality nursing care to patients					
2	Use of nursing care plans help a nurse to establish priorities of care					
3	The implementation of NP should be performed for all patients					
4	Nursing process is only applied for critically ill patients					
5	Nurses develop their critical thinking skill in nursing profession while applying NP					
6	Nursing process is hard to perform					
7	Applying nursing process is an additional task for a nurse					
8	Nursing process should be done by BSc and above nurses only					
9	Nursing process is merely academic exercise than clinical practice					
10	There is no enough time to apply NP during pt care					
11	Nursing process is a waste of time					
12	Implementing of all the steps of nursing process needs a massive documentation which is tiresome for nurses					
13	The NP simplifies the awareness of pt needs					
14	I think pts will not like to be cared for using the NP					
15	NP increases nurse to patient communication					

3. **Questions related to Assessment of Nursing Process Implementation (practices) in public hospitals of West Wollega Zone, March, 2019**

S.No	Variables	Never	Someti mes	Always
A	<b>Assessment</b>	1	2	3
1	How often you took nursing assessment for all newly admitted patients?			
2	How often you took written nursing history using a specific nursing format.			
3	How often you began nursing assessment within 24 hours of admission.			
4	I thoroughly assess objective and subjective data of a patient			
B	<b>Diagnosis (Dx)</b>			
1	I formulate nursing diagnosis based on the assessment of the patient.			
2	I include actual and potential health problems of a patient in the diagnosis.			
3	I have arranged problem statements in order of their priority.			
4	I formulate nursing Dx based on NANDA classification.			
5	How often you systematically took in to account patients'/or relatives opinions in the diagnosis of the patient?			
C	<b>Planning</b>			
1	I am able to develop care plan for every patient.			
2	How often your written care plan made before carrying out nursing interventions on the patient?			
3	I incorporate all the problems identified in the nursing care plan of a patient.			
4	I set out goals for the solution of each of the problems identified and documented in the care plan.			
5	How often you have documented nursing interventions in the care plan of your patient.			
D	<b>Implementation</b>			
1	How often you reassessed your patient's condition before implementing any planned nursing intervention in order to be sure of its appropriateness.			
2	I have practiced explaining nursing interventions to patients and/or relatives before any procedure.			
3	I developed a system of participating patients and /relatives in their care during the nursing intervention.			
4	How often you kept nursing documentation properly after the patient has been discharged?			

S.No	Variables	Never	Someti mes	Always
		1	2	3
5	I carry out nursing care plan both day and night as a basis for giving care to patients, as it is my responsibility.			
E	<b>Evaluation</b>			
1	I made a systematic evaluation of the effectiveness of care given to patients.			
2	How often you record the outcome of your evaluation in the care plans or nursing progress notes?			
3	I objectively measure patient progress towards the identified goals.			
4	How often you have modified the care plans according to the results of evaluation? (example: to add new ones, stop others, )			

**III. Institutional Related Factors** for the implementation of NP in public hospitals of West Wollega Zone, March ,2019

No	Characteristics	Response		Remark
1	What is your daily working hours (Ethiopian civil servant working hrs)	<= 8hrs		
		>8hrs		
2	What is the number of patients get care per day by a nurse	<5 patients		
		5-10 patients		
		>10 patients		
3	What is the status of availability of equipment for NP	Enough		
		Not enough		
4	Is there consistent supply of material for NP	Yes		
		No		
5	Availability of nursing stuff for NP as per the standard	Yes		
		No		
6	Does the hospital management have regular monitoring system of the implementation of NP?	Yes		
		No		
7	Are you oriented while joining the current organization	Yes		
		No		
8	Do you have over time work	Yes	With payment	
			Without payment	
		No		Skip to Q10
9	Satisfied with payment	Yes		
		No		
10	The greatest anxiety/ strain on nurses work place	Unsympathetic manager	Yes	
			No	
		coworkers doesn't do their task	Yes	
			No	
		Harassing coworker	Yes	
			No	



		Misconception of physicians	Yes	
			No	
		Language barrier	Yes	
			No	
		Rude physician	Yes	
			No	
<b>11</b>	Is there dissatisfying aspect of your job	Yes		
		No		Skip to Q13
<b>12</b>	Reason for dissatisfaction aspect of nursing	Rules being made up without staff Participation	Yes	
			No	
		Useless paper work	Yes	
			No	
		Having care for so many patients	Yes	
			No	
		Poor management of hospital	Yes	
			No	
<b>13</b>	Work place	Disorganized	Yes	
			No	
		Stressful	Yes	
			No	
		Negligent	Yes	
			No	
		Very conducive	Yes	
			No	
<b>14</b>	Nurses' turnover	Yes		
		No		Skip Q15
<b>15</b>	Cause for nurses' turnover	Low access of short/long training	Yes	
			No	
		Due to NGO's attractive payment	Yes	
			No	
		Less/no recognition for the work done	Yes	
			No	
		No or less carrier development	Yes	
			No	

**IV. Nurses perception on Patient Related Factors** for the implementation of NP in public hospitals of West Wollega Zone, March, 2019(n=183)

<b>No</b>	<b>Variable</b>		<b>Response</b>	<b>Remark</b>
<b>1</b>	Reason for patient turnover	Poor economic status to collect materials for provision of care	Yes	
			No	
		Long waiting time to get the service	Yes	
			No	
		Miss-understanding of modern medicine	Yes	
			No	
Discrimination	Yes			
	No			
<b>2</b>	Is patient turnover has influence on NP	Yes		
		No		Skip Q3
<b>3</b>	Influence of patient turnover on nursing care	Discharge before completing planned interventions	Yes	
			No	
		Not cooperative for their care	Yes	
			No	
		Lack of equipment	Yes	
			No	
Present with complicated problems which is difficult to manage	Yes			
	No			

**V. Medical Record Review Abstract Checklist**

To assess completeness and components of nursing process implementation from discharged patients' card for the implementation of NP in selected public hospitals of West Wollega Zone, March, 2019(n=200)

S.No	MRN	The five steps of nursing process ( say Yes or No )						
		Does patient card have nursing process format?	Does nursing process have assessment part with subjective and objective data?	Is there a clearly stated nursing diagnosis based on NANDA list?	Does nursing process have nursing care plan based on the identified	Does nursing process have nursing intervention with its	Does the nursing process have evaluation	Do nurses properly document their nursing activities?
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
.								
.								
200								

**VI. Open-ended Questions to Guide an In-depth Interview (n=9)**

- a) What is the importance of applying nursing process for the patient, the nurse and your hospital?
- b) How patient incomes affect implementation of nursing process in your hospital?
- c) Why most nurses perceive applying nursing process in practical setting is difficult?
- d) Which step do you think is more difficult to apply? Why?
- e) What are the challenges you face in applying nursing process in your hospital?
- f) What is the role and commitment of hospital management in nursing process implementation of the hospital?

## B. Afan Oromo Version

### Kutaa Tokko: Gaaffiwwan seenaa jireenyaa hirmaattotaa wajjin wal qabatu

Lak	Saafartuu		Bakka kanatti mallattoo godhi	Yaada
1	Sala	Dhiira		
		Dhalaa		
2	Umurii(waggaadhaan	20-24		
		25-29		
		30-34		
		>35		
3	Amanataa	Ortodoxii		
		Musliima		
		Peenxee		
		Waaqeffataa		
4	Haala fudhaa fi heerumaa	Fuudheera		
		Hin fuune		
		Hiikeera		
5	Galii ji'aa	2628-3999		
		4000-4999		
		5000-5999		
		6000-6999		
		7000-7999		
6	Bara tajaajilaa	Waggaa 1-5		
		Waggaa 6-10		
		Waggaa 11-15		
		Waggaa >16		
7	Sadarkaa barnootaa	Diploomaa		
		Digrii		
		Mastreetsii		
8	Sadarkaa Hospitaalichaa	Hospitaala Sadarkaa		
		Hospitaala		
9	Maqaa Hospitaalichaa	Gimbii		
		Najjoo		
		Mandii		
		Begii		

**Kutaa Lama: Sababoota Neersii Wajjin Wal -Qabatan**

**A) Gaaffiiwwaan Dandetti Nersotaaa Wajjin Wal-qabatan**

Lak	Safartuu	Deebii	Yaada
1	Adeemsa hojii dhukkubsachiisuu neersii ilaalchisee hubannoo qabdaa?	Eeyyee	
		Miti	
2	Adeemsi hojii dhukkubsachiisuu mala ittiin raga dhukkubsataa funaanuun fedhii isaa adda baasanii fi bu'aa tajaajila inni argatee ittiin mirkaneessaniidha.	Dhugaa	
		Soba	
3	Adeemsi dhukkubsachiisuu sadarkaa meeqa qaba?		
4	Sadarkaa adeemsa dhukkubsachiisuu neersootaa tarreessi 1. _____ 4. _____ 2. _____ 5. _____		
5	_____ mala ykn adeemsa qindaa'aa ittiin ragaa sassaabaniidha( raga dhukkubsataan himatuu fi kan ogeessi qaqqabatee argu) A) Sakatta'uu B) Madaaluu C) Karoorsuu		
6	Gosa murtoo sakatta'iinsa neersotaa meeqa beekta? A) 2 B) 3 C) 4 D) 5		
7	Murtoo sakatta'iinsa nersootaa isa kamtu nama dhibee wal-xaxaa yeroo dheeraa sababa dhibee shukkaaraa irraan kan ka'e gara fuula duraatti furuuf gargaara? A) Murtoo sakkatta'iinsa nersootaa amma mullatu B) Murtoo sakatta'iinsa nersootaa gara fuula duraatti dhufuu f jiru C) Murtoo sakatta'iinsa nersootaa ta'uu danda'u		
8	Adeemsi tajaajila dhukkubsachiisuu murtoo sakatta'iinsa nersii irratt hundaa'uun karoora tajaajila neersii hammata	Dhugaa	
		Soba	
9	_____ sadarka ati itti dhibee dhukkubsataan tokko amma qabuuf fala itti kennituudha. A) Sakatta'iinsa B) Karoorsuu C) Hojiitti jijjiiruu		
10	Sadarkaan hojiitti jijjiiruu sadarkaa 5ffaa adeemsa dhukkubsachiisuuti.	Dhugaa	
		Soba	
11	Adeemsi dhukkubsachiisuu nama baayyee dhukkubsate qofaaf hojjeta	Dhugaa	
		Soba	
12	Adeemsa dhukkubsachiisuu hubachuu irratti wanti sidanqu jiraa?	Dhugaa	
		Soba	
13	Adeemsa dhukkubsachiisuu kana sirnaan hojiirra oolchuu irratti leenjii ni barbaaddaa?	Eeyyee	
		Miti	
15	Adeemsi dhukkubsachiisuu raga seera qabeesadha.	Eeyyee	
		Miti	
16	Adeemsi hojii sakkatta'uu kunuunsa neersotaa jalqaba Waldaa Neersoota Ameriikaatiin hundeeffame	Dhugaa	
		Soba	

**B) Gaaffiiwwan Ilaalcha Neersotaa Wajjin wal qabatan**

<b>Lkk</b>	<b>Safartuu</b>	<b>B.itt waliigala</b>	<b>Ittan waliigala</b>	<b>Giddu-galeessa</b>	<b>Itti walii hin galu</b>	<b>B.iiti walii hin agalu</b>
1	Adeemsi dhukkubsachiisuu nersoonni akka tajaajila neersii qulqullina qabu dhukkubsataaf kennan ni godha.					
2	Karoorri tajaajila dhukkubsachiisuu nersoonni tajaajila kennan akka duraa fi boodaatti akka kennaniif ni fayyada.					
3	Hojiirra oolmaan tajaajila adeemsa dhukkubsachiisuu dhukkubsataa hundaafi.					
4	Adeemsi tajaajila dhukkubsachiisuu dhukkubsataa baaayyee dhibame qofaaf.					
5	Adeemsa tajaajila dhukkubsachiisuu hojiirra oolchuun sadarkaa tokko ykn lama qofaa osoo hin ta'in sadarkaa hunda ta'uu qaba					
6	Adeemsa tajaajila dhukkubsachiisuu hojiirra oolchuun cimaadha					
7	Adeemsa tajaajila dhukkubsachiisuu hojiirra oolchuun nersotaaf hojii dabalataati					
8	Adeemsa tajaajila dhukkubsachiisuu kan hojiirra oolu nersoota sadarkaa digrii qofaan.					
9	Adeemsa tajaajila dhukkubsachiisuu manneen barnootaa keessatti malee bakka hojiitti miti.					
10	Adeemsa tajaajila dhukkubsachiisuu hojiirra oolchuuf yeroon nga'aadha.					
11	Adeemsa tajaajila dhukkubsachiisuu yeroo hojii balleessuudha.					
12	Sadarka adeemsa tajaajila dhukkubsachiisuu hunda hojiirra oolchuuf waa baayee barreessuu barbaachisa,kunimmoonersootaaf dadhabsiisaa fi kan yeroo gubuudha.					
13	Adeemsa tajaajila dhukkubsachiisuu hubannaa dhukkubsatootaa ni fooyyessa					
14	Dhukkubsatoonni adeemsa tajaajila dhukkubsachiisuutiin tajaajila argachuu hin fedhan					
15	Adeemsa tajaajila dhukkubsachiisuu wal quunnamtii neersii fi dhukkubsataa gidduu jiru ni cimsa.					

**C) Hojii adeemsa dhukkubsachiisuu neersotaan wal qabatee gaaffiiwwan hojicha qabatamaan agarsiisuu wajjin wal qabatu**

<b>Lk</b>	<b>Safartuu</b>	<b>Miti</b>	<b>Yeroo tokko-tokko</b>	<b>Yeroo hundaa</b>
<b>A</b>	<b>Assessment( Sakkatta'iinsa)</b>	<b>1</b>	<b>2</b>	<b>3</b>
1	Dhukkubsatoota haaraa ciisan hundaa' sakkatta'iinsa ni geggeessitaa?			
2	Seenaa dhukkubsataa unka dhimma kanaaf qophaa'e irratti ni galmeessitaa?			
3	Dhukkubsataa ciiseef sa'a 24 keessatti sakkatta'iinsa ni geggeessitaafii?			
4	Sakkatta'iinsa dhukkubsataa haf-gaaffii fi waantoota safaramuu qaban safaruun sirriitti ni sakattaataa?			
<b>B</b>	<b>Diagnosis (Dx) ( Dhibee Adda baasuu)</b>			
1	Sakkatta'iinsa geggeeffame irratti hundaa'uun dhibee dhukkubsatichaa adda ni baafataa?			
2	Yeroo dhibee dhukkubsataa sakkattaatu dhibee inni amma qabuu fi kan gara fuula duraatti itti dhufuu danda'u addaan ni baafataa?			
3	Dhibee dhukkubsataa adda baafte akkaataa wal duraa duuba isaaniitti ni keessaa?			
4	Sakkatta'iinsa dhibee dhukkubsataa NANDA irratti hundaa'uun ni geggeessitaa?			
5	Yeroo dhibee dhukkubsataa sakattaatu maatii ni hirmaachiftaa?			
<b>C</b>	<b>Planning (Karoorsuu)</b>			
1	Dhukkubsata hundaaf tajaajilan kennuuf nan karoorsa.			
2	Hangaam yeroo hunda dhukkubsataaf osoo tajaajila hin kenning fuula dura waan kennuufiif jette barreffaamaan karoorffattaa?			
3	Rakkoon dhukkubsataa adda ba'an hunda karoora keessatti nan hammachiisa.			
4	Rakkoowwan dhukkubsataa adda ba'an hundaa' karoora furmaataa nan qopheessa			
5	Hangam tajaajila dhukkubsataaf laatte hunda faayila gootee qabatta?			
<b>D</b>	<b>Implementation( Hojiitti jijjiiruu)</b>			
1	Hangam dhukkubsataaf osoo tajaajila karoorsiteef tokko hin laatiniif haala dhukkubsataankee irra jiru irra deebiin sakattaataa?			
2	Osoon dhukkubsataaf tajaajila tokko hin kennin waanan gochuufiif jedhu sana dhukkubsatichaaf/maatii isaatiif nan ibsa			
3	Yeroon dhukkubsataaf tajaajila kennu mala ittiin maatii hirmaachisu naan uuma.			
4	Eerga dhukkubsataan tajaajila isaa fixee ba'ee booda ragaa jiru sirriit faayila godhee nan kaa'a			
5	Tajaajila adhukkubsataaf karoorfame hunda halkanis ta'ee guyyaa			



	kennuufiin ndirqamakoo nan ba'a.			
E	<b>Evaluation( Madaaluu)</b>			
1	Tajaajilli kenname hangam bu'a qabeessa akka ta'e mala ittiin hordofu nan qopheeffadha.			
2	Hangam bu'aa bu'a-qabeessummaa tajaajila kennitee sirriitti galmeessitee keessa?			
3	Fooyya'iinsa dhukkubsataa karoorakoo wajjin waal bira qabee nan madaala			
4	Hangam bu'aa argame irratti hundaa'uun karoorakee fooyyessita?			

**Kutaa sadii: Sababoota iddoo hojitiin walqabatan**

Lak	Safartuu	Deebii	Yaada
1	Guyyaatti sa'a ammamii hojjetan(Sivilserviisii Ixoophiyaa)	8hrs	
		>8hrs	
2	Neersiin tokko guyyaatti dhukkubsatoota meeqaaf tajaajila kenna?	Dhukkubsataa 5 gadi	
		Dhukkubsataa 5 hanga 10	
		Dhukkubsataa 10 ol	
3	Haalli meeshaalee waldhaansaa adeemsa dhkubsachiisuuf oolu akkami?	Ga'aadha	
		Ga'aa miti	
4	Qodaawwan adeemsa dhukkubsachiisuuf oolan ittifufiinsaan ni jiru?	Eeyyee	
		Miti	
5	Baayyinni nersootaa hojii kanaaf ga'aadhaa?	Eeyyee	
		Miti	
6	Yeroo gara dhaabbata kanaa dhufte orenteeshiniin siif kennemeeraa?	Eeyyee	
		Miti	
7	Sa'a hojii mootummaan al ni hojjettaa?	Eeyyee	Kaffaltiidhaan
			Kaffaltii malee
		Miti	
8	Kaffaltichatti quufteettaa?	Eeyyee	
		Miti	
9	Bakka hojiitti dhiibbaan ykn sodaan nersoota maalii?	Geggeessaan gadduufii dhiisuu	Eeyyee
			Miti
		Hojjettoonni biroon hojii isaanii sirriitti hojjehuu dhabuu	Eeyyee
			Miti
		Hojjetaa waliin hojjetaniin dhiibbaan amanta ykn saalaa ga'uu	Eeyyee
	Miti		
	Yaada dogoggoraa hakiimotaa	Eeyyee	

			Miti	
		Danqa qqooqaa	Eeyyee	
			Miti	
		Hakiimii safuu hin beekne	Eeyyee	
			Miti	
10	Hojii kee keessaa kan ati ittin quufne jiraa?	Eeyyee		
		Miti		
11	Sababa ati hojiikee kanati hin quufneef maaliif?	Qajeelfamoonni ba'an hirmaachisa ta'uu dhabuu	Eeyyee	
			Miti	
		Hojii waraqaa bu'aa hin qabne	Eeyyee	
			Miti	
		Dhukkubsataa baayyef tajaajila kennuu	Eeyyee	
			Miti	
12	Haala bakka hojii	Qindaa'aa miti	Eeyyee	
			Miti	
		Dadhabsiisaa	Eeyyee	
			Miti	
		Xiyyeeffannoo kan nhin qabne	Eeyyee	
			Miti	
13	Nersoonni dafanii-dafanii ni jijjiiramuu?	Baayyee mijataa dha	Eeyyee	
			Miti	
		Eeyyee		
		Miti		
14	Sababa dafanii-dafanii jijjiiramuu neersootaa	Leenjii dhabuu	Eeyyee	
			Miti	
		Kaffaltii guddaa miti-mootummaa barbaaduu	Eeyyee	
			Miti	
		Hojii hojjeetaan tokko hojjeteef beekamtii kennuu dhabuu	Eeyyee	
			Miti	
		Guddinni sadarkaa xiqqaachuu	Eeyyee	
			Miti	

**Kutaa Afur: Sababoota dhukkubsataa wajjin wal-qabatu**

<b>Lak</b>	<b>Safartuu</b>	<b>Deebii</b>	<b>Yaada</b>
<b>1</b>	Dhukkubsataan daddafee hospitaalaa ba'uu	Eeyyee	
		Miti	
<b>2</b>	Sababoota dhukkubsatan dafee hospitaalaa ba'uuf	Sababa iyyummaa meeshaalee tajaajilaf barbaachisu bitachuu dhabuu	Eeyyee
			Miti
		Osoo tajaajila hin argatin yeroo dheeraa turuu	Eeyyee
			Miti
		Haala tajaajila jabanaa kana hubannoo dhabuu	Eeyyee
			Miti
	Qooddii	Eeyyee	
		Miti	
<b>3</b>	Dhukkubsataan dafee ba'uun tajaajila adeemsa dhukkubsachiisu irratti dhiibbaa qabaa?	Eeyyee	
		Miti	
<b>4</b>	Dhiibbaa dhukkubsataan dafee ba'uu tajaajila adeemsa dhukkubsachiisuu irratti qabu	Tajaajila argachuu qabu osoo hin xumurin ba'u	Eeyyee
			Miti
		Tajaajila argachuuf fedha dhabuu	Eeyyee
			Miti
		Meeshaan dhibuu	Eeyyee
			Miti
	Dhibee wal xaxaan dhufuu	Eeyyee	
		Miti	

**Kutaa shan: Af-gaaffii namoota murteessoo dhimma tajaajila kenniinsa kununsa hojii neersotaa wajjin waal qabatuu**

1. Kunuunsi tajaajila neesii hospitaala keessatti hojjiirra oolchuun dhukkubsataaf, neersii fi hospitaalaaf maal fayyada?
2. Neersoonni baayyeen kununsa hojii tajaajila neersotaa hojjiirra oolchuun maaaliif cimaadha jedhanii yaadu?
3. Sadarkaawwan kununsa neersii keessaa isa kamtu hojjiirra oolchuudhaaf ulfaata? Maaliif?
4. Tajaajila hojii kununsa neersii kan hojjiirra oolchuu keessatti akka hospitaala keessanniitti danqaan jiru maal fay'ii?
5. Hojii kununsa neersii kan hojjiirra oolchuu keessatti kutannoo fi qophaa'ummaan manaajimentii hospitaalaa bira jiru maal fakkaata?

**Kutaa Ja'a: Cheekliistii ittiin tajaajilli adeemsa dhukkubsachiisuu kaardii dhukkubsataa irra jiru guutuu fi walitti fufiinsa qabaachuu isaa ittiin mirkaneessan**

Lak	Dhimmoota ilaalamu qaban	Deebii	Yaada
1	Kaardii dhukkubsataa foormii ademsa dhukkubsachiisuu neersotaa qabaa?	Eeyyee	
		Miti	
2	Adeemsi tajaajila dhukkubsachiisuu neersotaa sakatta'iinsa (raga dhukkubsataan himatuu fi kan ogeessi adda baasu)	Eeyyee	
		Miti	
3	Adeemsi tajaajila dhukkubsachiisuu nersootaa murtoo sakkatta'iinsa neersotaa qabaa	Eeyyee	
		Miti	
4	Adeemsi tajaajila dhukkubsachiisuu nersootaa sadarkaa karoorsuu ni qabaa?	Eeyyee	
		Miti	
5	Adeemsi tajaajila dhukkubsachiisuu nersootaa sadarkaa hojiitti jijjiiruu qabaa?	Yes	
		No	
6	Neersoonni tajaajila kennan ni madaaluu?	Yes	
		No	
7	Neersoonni waan hojjetan hunda kaardii dhukkubsataa irratti ni galmeessuu ?	Yes	
		No	

**1. Thesis approval form final**

2. I, the undersigned, hereby declare that this thesis is my original work. The work has not been presented for degree in any university and source of materials used for the project has been acknowledged.

Student's Name: Mesfin Tasew

Signature \_\_\_\_\_

Date \_\_\_\_\_

**3. Approval of Internal Examiner:**

Internal Examiner's Name: Shimelis Ololo (MPH, Associate Professor)

Signature \_\_\_\_\_

Date \_\_\_\_\_

**4. Approval of 1<sup>st</sup> advisor:**

Name: Prof. Mirkuzie Woldie

Signature \_\_\_\_\_

Date \_\_\_\_\_

**5. Approval of 2<sup>nd</sup> advisor:**

Name: Mr. Yibeltal Siraneh (PH, MPH/HSM, PhD Fellow (B. Pharm, MHA)

Signature \_\_\_\_\_

Date \_\_\_\_\_