ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE SCHOOL OFPUBLIC HEALTH

MASTER OF HEALTH CARE AND HOSPITAL ADMINISTRATION

INCREASING THE INFECTION PREVENTION COVERAGE IN SHOAROBIT PRIMARYHOSPITAL NORTH SHOA, ETHIOPIA

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A CAPSTONE PROJECT SUBMITTED TOADDIS ABABA UNVERSITY COLLEGE OF HEALTHSCIENCE SCHOOL OF PUBLIC HEALTH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN HOSPITAL AND HEALTH CARE ADMINISTRATION.

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ADDISABABA ETHIOPIA

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MASTER OF HEALTH CARE AND HOSPITAL ADMINISTRATION

MASTER OF HOSPITAL AND HEALTHCARE ADMINISTRATION PROGRAM

CAPSTONE PROJECT

Name Of Principal Investigator	AbebeBizu, MHA Student
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Full Title Of Capstone Project	INCREASING THE INFECTION PREVENTION COVERAGE IN SHOAROBIT PRIMARYHOSPITAL NORTH SHOA, ETHIOPIA.
Duration Of The Project	From December 2011 to April 2011.
Project Area	Sheaorobit Primary Hospital
Total Cost Of Project	25465 ETB
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Summary

Introduction Infection prevention and control is a central component of safe and high-quality service delivery at the facility level. With an inadequate practice of infection prevention, the risk of acquiring infections through exposure to blood, body fluids or contaminated materials in healthcare facilities is substantial. Lack of compliance with infection prevention and control measures has a number of consequences. Adherence to infection prevention and control practices is essential to providing safe and high quality patient care across all settings where healthcare is delivered.

Objective – The overall objective of the project is to increase infection prevention and patient safety implementation from 50% to 80% at the end of June2011E.C in Shoarobit Primary Hospital ANRS,Ethiopia.

Methods –Facility based pre-post interventional study design was applied in Shoarobit Primary Hospital. To understand the actual processes and problems faced on the ground, an actual state analysis was performed after measuring base line assessment. This allowed us to analyzed and understand the bottlenecks and problem areas within the hospital before implementing selected best interventions.

Timeline and budget for capstone project completion:-from January 1st /30 to April /30/2019, with total project budget of 25465 ETB.

Key words

Low infection prevention practice, infection prevention and patient safety, surgical site infection, average length of stay, Quality of care, Public health care, Client satisfaction, satisfaction.

Table of Contents

Acknowledgement III
List of tables VI
List of figures VII
Acronyms VIII
Background of the study 1
Organizational description 1
Introduction 5
Statement of the problem 6
Significance of the study 7
Objectives 8
General objective: - 8
Specific Objective 8
Literature review 9
Methods and materials 10
Study area and period 10
Study design 10
Study population Sample population 10
Source population 10
Sample size 10
Sampling procedure 11
Pre-intervention 11
Root cause analysis 13
Data collection 13
Description of the Possible Interventions 16
Evaluation 17
Data collection tool and procedure 19
Data entry and analysis procedure 19
Data quality control 19
Ethical consideration 19
Result and discussion 19
Dissemination plan 20
Reference 25

List of tables

Table 1:- Human resource profile 2
Table 2:- SWOT analyses of shaorobit primary hospital 4
Table 3:- prioritization matrix (1_5 scale: 1 the least possible and 5 stands to maximum priority) in SPH 12
Table 4:- possible root causes for low rate of infection prevention and patient safety in SPH. 15
Table 5:- Real root cause decision matrix: quantitative 15
Table 6:_ Comparative analysis of possible interventions for increasing infection prevention and patient safety (1-5 scale; 1 the least possible and 5 stands to maximum priority) 16
Table 7:-Evaluation analysis of indicators for increasing infection prevention and patient safety, 2011. 18
Table 8:- Work plan of increasing infection prevention and patient safety in Shoarobit primary hospital,2011EC. . 22
Table 9:-Gantt chart 23
Table 10:- Budget break down for capstone in increasing infection prevention and patient safety, Central part of Ethiopia, 2011. 24

List of figures

Figure 1:-Organizational hierarchy of Shoarobit primary Hospital 3
Figure 2:- fish bone diagram for low rate of infection prevention and patient safety 14

Acronyms

ANRS	Amhara National Regional State
AAU	Addis Ababa University
ART	Antiretroviral Therapy
CASH	Clean And Safe Hospital
CCO	Chief Clinical Officer
CEO	Chief Executive Officer
EHSTG	Ethiopian Hospital Strategy Transformation Guideline
HCW	Health Care Workers
HRM	Human Resource Management
IPD	Inpatient Department
IPPS	Infection Prevention and Patient Safety
KPI	Key Performance Indicator
NICU	Neonatal intensive care unit
OPD	Outpatient Department
OR	Operation Room
PMT	Performance Monitoring Team
PMTCT	Prevention of Mother To Child Transmission
QI	Quality Improvement
SMT	Sooner Management Team
TB	Tuberculosis
HSTQ	Health sector transformation for quality
HSTP	Health sector transformation plan

Background of the study

Organizational description

The EHSTG Standards, Key Performance Indicators (KPIs) and Ethiopian hospitals alliance for quality are valuable documents for defining problems and setting objectives that are consistent with national priorities. The hospital had PMT which continuously evaluate and report to the regional health bureau monthly based on the key performance indicators and related activities, therefore in the last six-month midyear/January-June/ 2010 E.C report IPPS/CASH performance was 50%, which has low performance.

The rationale for the establishment of Shoarobit primary Hospital is to reduce mortality, morbidity, disability and suffering of the people in the catchment area through of effective, efficient, equity and quality care by providing health promotion and disease preventive, curative and rehabilitative services.

Table 1:- Human resource profile

Professionals	Female	Male	Total
General medical practitioner	02	06	08
Radiologist	0	01	02
Integrated Emergency Surgical	0	03	03
Health officer	0	01	01
BSc nurses	05	05	10
Nurses diploma	07	06	15
BSc Midwives	0	05	05
Laboratory technologists	0	02	02
Pharmacist	01	01	02
Pharmacy technicians	02	02	04
Laboratory technicians	01	02	03
Anesthetist	01	01	02
X-ray technician	0	01	01
Biomedical Technician	01	0	01
Diploma midwifery	02	02	04
Other supportive staffs	36	21	65
		Total	128

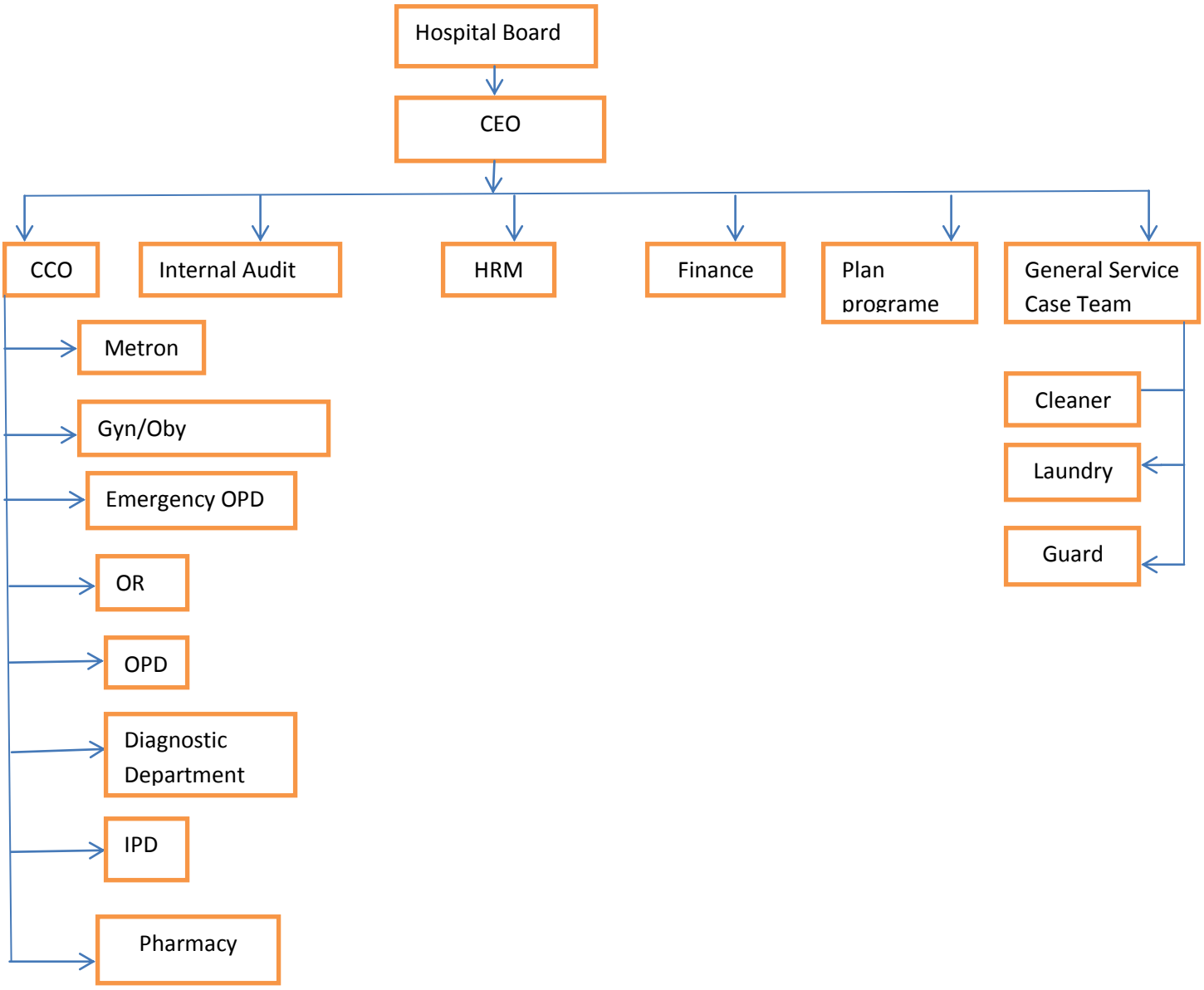

Figure 1:-Organizational hierarchy of Shoarobit primary Hospital

Table 2:- SWOT analyses of shaorobit primary hospital

Strength	**Weakness**
Regular monthly SMT meeting On job training Weekly client evaluation Started almost all services Established different committee Motivated staffs	Poor data handling and used for decisions Poor handling of medical equipment and supplies No strong quality unit Staff turn over
Opportunities	**Threats**
Different initiatives like EHSTG HSTQ HSTP IPPS/CASH Internal revenue retain Clustering system with lead hospitals High patient flow Established board	Lack of some professionals Lack of road Shortage of water Budget constraints

Introduction

Globally, hundreds of millions of people are affected every year by avoidable infections in health care (1).Infection prevention plays a key role in preventing and reducing the rate of healthcare associated infection (HAIs). HAIs, are the most frequent adverse event in healthcare worldwide can occur as a part of an endemic or epidemic situation and affect the quality of care of hundreds of millions of patients year in both developed and developing countries [2,3].

According to the Centers for Disease Control and Prevention (CDC), HAIs defined as infections localized or systemic condition resulting from adverse reaction to the presence of infectious agent or its toxins acquired from health care settings that was not incubating or symptomatic at the time of admission to the healthcare facility [4]. These infections are a major public health concern and a threat to patient safety, contributing to increased morbidity, mortality, and cost [5]. Based on the available evidence, the overall impact of HAIs implies prolonged hospital stay, long-term disability, increased resistance of microorganisms to antimicrobials, high costs for patients and their family, and unnecessary deaths [6-8]. In addition, it places a significant massive additional economic burden on the health care system [9].

According to World Health Organization (WHO), of every 100 hospitalized patients, 10 in developing countries and 7 in developed countries will acquire at least one HAI [10]. The CDC also estimates that 2 million patients suffer from HAIs every year and nearly 100,000 of them die in United States (US) [11]. In US and Europe the point prevalence of patients with at least one HAI in acute care hospitals has reached 6%, prevalence (19.5%) was highest among patients admitted to intensive care units (ICU) [12,13]. By contrast in developing countries, the problem is three times higher when compared to the incidence observed in adult intensive care units in the US. It is also thought that the prevalence is more than 40% in parts of Asia, Latin America and sub-Saharan Africa [14,15]. In sub-Saharan Africa lone, the rate of HAIs ranges from 2.5 to 30.9% with patients undergoing surgery, the most frequently affected [16– 18]. This high proportion of surgical site infection is also seen in studies conducted in Ethiopia, with the prevalence ranging from 11.4 to 52.1% [19–22].

Infection prevention and control is a central component of safe and high-quality service delivery at the facility level. With an inadequate practice of infection prevention, the risk of acquiring infections through exposure to blood, body fluids or contaminated materials in healthcare facilities is substantial (23,24). In connection with that, contracting an infection while in a healthcare setting challenges the basic idea that healthcare is meant to make people well (25). Obviously, lack of compliance with infection prevention and control measures has several consequences (26,27).

Adherence to infection prevention and control practices is essential to providing safe and high-quality patient care across all settings where healthcare is delivered. Substantial attention has been focused in recent years on improving infection prevention practices within acute care hospitals to optimize patient safety; many of these practices also need to be applied across multiple aspects of patient care. In addition, changes in healthcare during the past decade, driven at least in part by efforts to contain costs, have resulted in an increasing proportion and range of healthcare services being delivered outside of the acute care setting [28].

Statement of the problem

Infection prevention is a basic activity in the hospital since both the health care professionals and the patients are could contribute for the practice to be performed in required way. In my hospital infection is common and the working environment is not properly designed and cleaned. Therefore, the hospital management and even the patients had complained on the improvements of the IPPS/CASH in the hospital.

In Shoarobit Hospital Patients and staffs were complaining due to the unpleasant odors ,surgical site infection occurrence lack of water and detergent's, infection prevention equipment's and work over load on cleaners in every parts of the wards. Shaorobit hospital had infection prevention and patient safety performance is 50%.

Poor infection prevention and patient safety practice has an impact for acquiring hospital infections, to prolong admission days, causes high staff turnover and it leads to bringing of low quality health services and make unmeet infection prevention standards, it makes also difficult for producing effective treatment and As a result it brings the low quality health care services and not attractive hospital surrounding and causes customer dissatisfaction.

The implication of low infection prevention performances due to low practice about the standards of infection prevention and patient safety in the hospital. A similar study conducted DebreMarko's referral hospital reveals more than two thirds (84.7%) of healthcare workers were found to be knowledgeable but only 57.3% of respondents demonstrated a good practice on infection prevention. Older age, lengthy work experience and higher educational status were significantly associated with both knowledge and practice of infection prevention. In-service training, availability of infection prevention supplies and adherence to infection prevention guidelines was also associated with the practice of infection prevention (29).

The major compliant for the last two years was water is not avail for 24 hours per day, shortage of supplies and detergents, lack of awareness about waste segregation, transportation and disposals, and no assigned persons to coordinate the programs. However there are problems that still need special attention, but the existence of low infection prevention and patient safety is one of the top priority problem in the hospital.

Significance of the study

Infection prevention and control is a central component of safe and high quality service delivery at the facility level. With an inadequate practice of infection prevention, the risk of acquiring infections through exposure to blood, body fluids or contaminated materials in healthcare facilities is substantial. Lack of compliance with infection prevention and control measures has a number of consequences. Adherence to infection prevention and control practices is essential to providing safe and high quality patient care across all settings where healthcare is delivered.

The intention of this study is to increase clean and safe health facility, infection prevention and patient safety/CASH and IPPS/ implementation from 50% to 80% at the end of 2011 E.C. In Shoarobit primary Hospital where infection is common because the working environment is not properly designed, Hospital is new and most of the staffs had not got training on CASH/IPPS that halts provision infection prevention and control practices.

The result of the study was helped to gain information about burden infection prevention and control practices in the area of study and the country at large. The findings can be used by concerned bodies like health care workers, supportive staffs, administrative, health planners and other stakeholders for planning and evaluating infection prevention and control measures and guideline development intending to reduce the burden of both Hospital and community acquired infection. The recommendations given if considered were going to benefit the public at large on prevention of infection.

Objectives

General objective: -

- The overall objective of the project was to increase infection prevention and patient safety implementation from 50% to 80% at the end of June 2011E.C in Shoarobit Primary Hospital, ANRS,and Ethiopia.

Specific Objective

- To availed water for 24 hours per day and 7 days per week in the hospital at the end of June 2011E.C in Shoarobit Primary Hospital, ANRS,and Ethiopia.
- To provided trainings on ipps/cash for about 80 staffs in the hospital at the end of June 2011E.C in Shoarobit Primary Hospital, ANRS, and Ethiopia.
- To established the ipps/cash committee in the hospital at the end of June 2011E.C in Shoarobit Primary Hospital, ANRS, and Ethiopia.
- Outsourcing the cleaning works in the hospital at the end of June 2011E.C in Shoarobit Primary Hospital, ANRS, and Ethiopia.

Literature review

A study conducted DebreMarkos referral hospital reveals more than two thirds (84.7%) of healthcare workers were found to be knowledgeable but only 57.3% of respondents demonstrated a good practice on infection prevention. Older age, lengthy work experience and higher educational status were significantly associated with both knowledge and practice of infection prevention. In-service training, availability of infection prevention supplies and adherence to infection prevention guidelines was also associated with the practice of infection prevention (29).

The likelihood of self-reporting safe infection prevention practice significantly increased if healthcare workers had received training (AOR = 5.31; 95% CI: 2.42, 11.63) and had infection prevention guidelines available (AOR = 3.34; 95% CI: 1.65, 6.76). Healthcare workers were more likely to have infection prevention knowledge if they worked longer ten years or more (AOR = 3.41; 95% CI: 1.22, 9.55); worked in facilities with infection prevention committees (AOR = 1.78; 95% CI: 1.01, 3.13), had infection prevention guidelines available (AOR = 2.44; 95% CI: 1.45, 4.12); had training (AOR = 5.02; 95% CI: 1.45, 8.59)(30).

Health Care Workers who had positive attitude towards infection prevention practices were two times more likely to have good infection prevention practices compared to HCW who had negative attitude towards infection prevention practices (AOR=2.03, 95%CI: 1.26-3.26). HCWs who had aware on availability of infection prevention related standard operating procedures (SOP) or guideline in their healthcare facility were almost two times more likely to have good infection prevention practices compared to those who had no awareness on availability of infection prevention related SOP (AOR=1.97, 95%CI: 1.34-2.93). The overall One year prevalence of needle stick and sharp injury was 30.2% while one year prevalence of blood or body fluid splash to eye, mouth or nose exposure was 41.5%.(31)

Methods and materials

Study area and period

The study was conducted in shoarobit primary hospital located in North Shao zone Amhara region. It is 225 km from Addis Ababa and 768 km from Bahirdar and established in 2009 E.C .The hospital has 51 clinical staff and 58 non-clinicalstaffs,and the hospital serves for about more than 140000 people, 3districts from Amhara region and 4 other districts from Afar region. Currently the hospital provides the following services. Outpatient services, Inpatient departments, Neonatal intensive care unit, Emergency department-natal delivery and post-delivery services, PMTCT, Operation service both minor and major, Dental clinic, ART clinic, Family planning, Immunization, psychiatry, Diagnostic x-ray and ultrasound services.

Study design

A facility-based pre- post interventional study was employed. The status of the CASH/IPPS implementation was assessed by observing wards and the hospital compound, reviewing reports and SMT meetings. Base line assessment and analysis was done, and also we were used it the base line data for comparison after implementing and monitoring the interventions and after collecting the post intervention data.

Study population Sample population

All working rooms at Shoarobit primary hospital during the study period was the study population.

Source population

All working rooms at Shoarobit primary hospital during the study period was the study population.

Sample size

Totalof 22 working units were used as a sample size as all departments were focused area. Outpatient department, Family planning, Pre natal delivery and post-delivery services, Psychiatry, Immunization room,Inpatient departments,Neonatal intensive care unit,Emergency department,Diagnostic x-ray and

ultrasound services,Dental clinic,TB clinic,ARTclinic,Operation service (both minor and major), PMTCT, Laboratorydepartment,medical record room, Liaison unit, Laundryunit, dressing unit and administration room.

Sampling procedure

In Shoarobit primary Hospital there were 22 working rooms. By using infection prevention check list and reports can identified the infection prevention and patient safety performance and the impact. Shortage of materials .patient visits per day in outpatient department. After measuring the performance of infection prevention and patient safety data was measure the skill gap, shortage of equipment's, availability of water and satisfaction of staffs and patients.

Pre-intervention

A senior management team of 14 individuals was formed on November 2011 E.C. to identify main problems of Shaorobit primary Hospital at CEO office. To identify the problem chief nursing officer, head of quality assurance, head of HMIS, head of finance head of HR head of radiology, head of laboratory ,head of outpatient department, MNCH head, head of general service, cleaner representatives, operation theater coordinator and inpatient medical director were involved. Each of them mentioned problem based on their experience and observation. those mentioned problems were prioritized based on prioritization matrix, which includes criteria like cost feasibility, impact(severity), frequency and acceptance by staff members and each individual were asked to value every problem, then the average value was taken, each value summed up then ranked.

Table 3:- prioritization matrix (1_5 scale: 1 the least possible and 5 stands to maximum priority) in SPH

Health problems	Health risk (Rating X Weight)	Cost (Rating X Weight)	Appropriateness of the intervention (Rating X Weight)	Scale of the problem	Total score
High opd waiting time	3x0.5=1.5	3x0.25=0.75	2x0.25=0.5	1x0.25=0.25	*2*
Low ipps/cash implementation	3*0.5=1.5	2*.25=0.5	3*0.25=0.75	3*0.25=0.75	*3.5*
Low nursing care plan implementation	3x0.5=1.5	2x0.25=0.5	3x0.25=0.75	3x0.25=0.75	*2.75*
Low laboratory test menu	2x0.5=1	1x0.25=0.25	2x0.25=0.5	1x0.25=0.25	*2*
High drug stock out rate	1x0.5=0.5	2x0.25=0.5	2x0.25=0.5	1x0.25=0.25	*1.75*
Shortage of rooms	3*0.5=1	3*0.25=0.75	2*0.25=0.5	1*0.25	*3*

Based on the result of prioritizing matrix the leading and the major problem in our hospital wasLow ipps/cash implementation.

The study focuses on the need to improve the low achievement of infection prevention used to reduce surgical site infection and increase total attendants in the hospital.

Root cause analysis

Data collection

Before forming a team data was collected to get baseline, through standardized checklist according to the collected data the performance of infection prevention and patient safety was 50% it was low achievement according to minister of health and regional health bureau target. After knowing the average performance of infection prevention and patient safety we were going to discuss about the causes of low performance. A question was asked ("What do you think is the major cause for low ipps performance/ to know the potential root causes/contributing factors for low performance of infection prevention and patient safety in our hospital. After reviewing the previous data and doing base line assessment before a week, the achievement was 50%. After identifying the problem and in each service delivery unit of the hospital we included in discussion the care givers they are directly related to the problems were chosen for discussion.

- ✓ Quality officer
- ✓ Nurses and physicians
- ✓ Nurse head of the OPD
- ✓ Nurse officer matron
- ✓ Head of OPD/ case manager
- ✓ Lesion and admission officer
- ✓ Administration staffs
- ✓ Cleaners

The taskforce identified the key factors affecting efficient segregation of wastes which include lack of knowledge and shortage of detergents; have no regular room washing program per week; there is no strong committee to coordinate the activities; have no enough autoclaves used for instrumental processing; few number of cleaners; lack of standard operating procedures; and poor arrangement of the rooms.

Using the fishbone tool, many causes were identified as contributors to the existence of long waiting time and ineffective process and flow chart tool was carried out to see the process of patient flows. Finally, the result was organized making it to fit into fishbone diagram as follows.

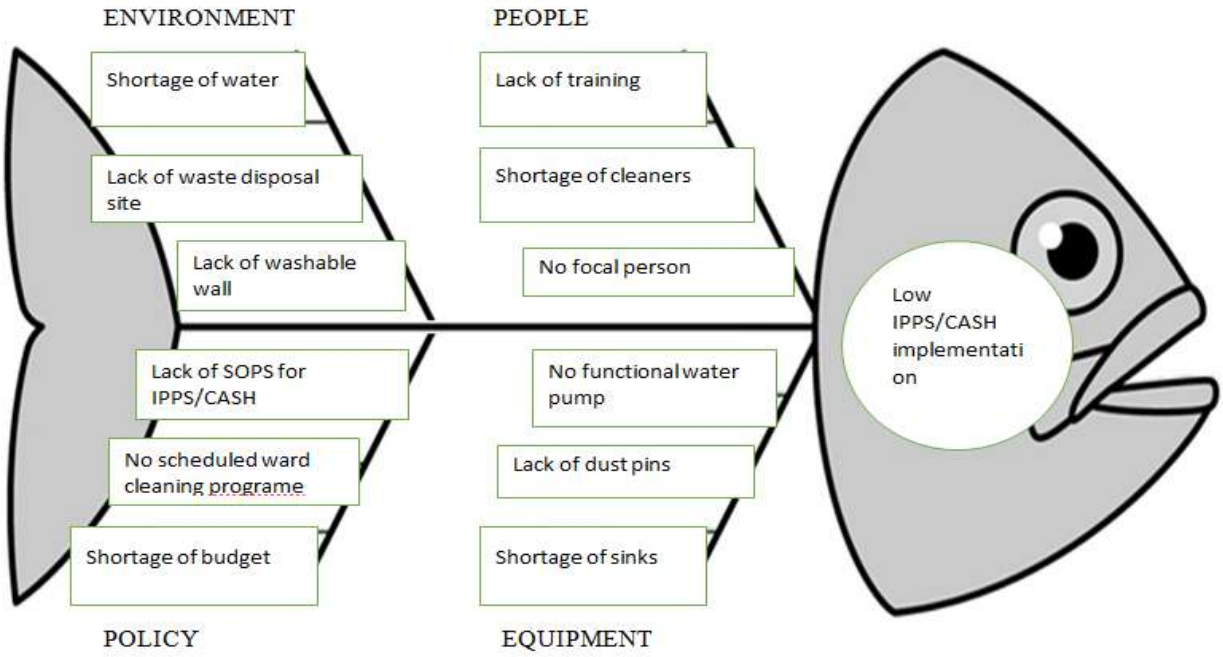

Figure 2:- fish bone diagram for low rate of infection prevention and patient safety

Table 4:- possible root causes for low rate of infection prevention and patient safety in SPH.

Possible causes	Data collection	Result of data analysis	Accept /reject
Shortage of water	Observation	processing	
Lack of training	Observation and interview	processing	
Lack of supply's and detergents	Interview and observation	processing	
Lack of standard operating procedures	Observation and interview	processing	
Shortage of rooms	Observation	processing	
No enough cleaners	Observation and interview	processing	
Shortage of autoclaves	observation	processing	

Identified real root causes as orderly

- shortage of water
- lack of training
- dysfunction of the water pump

Table 5:- Real root cause decision matrix: quantitative

S. no	Identified real root cause	Evaluation criteria(1-5 scale ,1 the least possible and 5stands maximum priority)				Total
		Impact on problem	Expense	Feasibility	Time	
1	Shortage of water	4	3	3	3	13
2	Lack of training	5	3	4	4	16
3	Dysfunction of water pump	4	1	3	1	9

Description of the Possible Interventions

The taskforce formulated a series of Comprehensive interventions aimed to increase infection prevention and patient safety. The comprehensive interventions are listed below based on the root cause analysis result:-

- Give training for all staffs in the hospital
- Assign responsible person who manages the infection prevention activities and make a close supervision
- Outsource the cleaning works
- Avail water 24hours per day and 7 days per week in the hospital
- Avail all the detergent and washing areas for the attendants.
- Prepared green area label directions in the hospital

Table 6:_Comparative analysis of possible interventions for increasing infection prevention and patient safety (1-5 scale; 1 the least possible and 5 stands to maximum priority)

No	*Alternatives*	*Evaluation criteria*				
		Time required	Annual expense	Feasibility	Impact on performance	Total score
1	Providing trainings for all staffs	4	4	5	5	18
2	Avail water 24 hours in the hospital	4	4	4	4	16
3	Outsource the cleaning works	3	3	3	4	13
4	Assign focal person and make a close supervision	4	3	4	1	7
5	Avail all the detergent and washing areas for the attendants	3	1	4	1	9
6	Prepared green area label directions in the hospital	4	2	4	3	12

Select best intervention and Implement

- Give training for all staffs in the hospital about infection prevention and patient safety,watse management and how to create clean and safe health facility
- Assign responsible person who manages the infection prevention activities and make a close supervision
- Outsource the cleaning works to reduce cleaners work over load and increasing the achievement of infection prevention and patient safety.
- Avail water for 24hours per day and 7 days per week in the hospital to facilitate infection prevention and patient safety in Shoarobit primary hospital.
- Avail all the detergent and color coded bins in each of the rooms and corners.
- Prepared green area used for staff refreshments and labeling the directions in the hospital.

Based on the above discussion and analysis we select best interventions and we implement the interventions to Shoarobit primary Hospital to increase infection prevention and patient safety. To obtain improved and clean hospital environments there should be orientation and continuous supervision of individuals and rooms with standardized check lists are continue and implement those listed best intervention and if they are monitored and evaluated the progress they may gate a high improvement in infection prevention and patient safety.

Those will reduce the patient complains and staff exposures for unnecessary contaminations in the working area. Experienced by patients asking water availability in the washing rooms and toilets. Healthcare providers also need training on the various ways to protect them selves and about waste segregation. Supporting staff also need to take infection prevention trainings by which can lastly increase the infection prevention and patient safety.

Evaluation

Process indicator

- ✓ Number of trainers in the staff
- ✓ Number of Rearranging rooms
- ✓ Duration of water availability in the hospital
- ✓ Buying supplies and detergents
- ✓ Out-sourcing the cleaning activities
- ✓ Number of maintained water pumps

- ✓ Procuring autoclave machine

Outcome indicator

Table 7:-Evaluation analysis of indicators for increasing infection prevention and patient safety, 2011.

	List of indicators	Definition	Pre intervention	Post intervention	Plan of the intervention
1	Healthcare acquired infection rate	Total number of patients with an infection arising >48 hours after admission during reporting period /total number of admissions during reporting period *100	3	No	0
2	Surgical site infection	total number and percentage of patients with clean surgical procedure who developed surgical site infection	4%	2.3%	<1%
3	The number of people that started PEP treatment	Total number of people started on PEP treatment during the reporting period	2	0	0
4	% of people that completed the PEP treatment	Total number of people that completed PEP treatment during the reporting period/ Total number of people who should have completed PEP treatment during the reporting period*100	0	100%	100%
5	Outpatient satisfaction survey: %	Total number of outpatients who respond 'agree' or 'strongly agree' to the listed questions/ Total number of outpatients respondents*100	65%	87%	100%
6	Inpatient satisfaction survey: %	Total number of inpatients who respond 'always or usually' to the listed question/ Total number of inpatients respondents*100	58%	85%	100%

Lastly the project performance increased from 50% to 75%,which is successful and it gets recognitions by the hospital management teams, board members and the whole staffs in shoarobit primary hospital by the end of April,2011 EC..

Data collection tool and procedure

Pre- Data was collected using standardized infection prevention and patient safety checklist through different methods like interview, site visit, and asses the skill of staffs how to use the procedures. Data for pre intervention assessment was collected by two trained persons from December 1 – 6/2011 EC. After intervention data will be collected from April 1-6, 2011 EC by using checklist, interview and site visit as that of the same data collection procedure like the pre intervention time.

Data entry and analysis procedure

During pre-intervention collected data was analyzed by using counting tables and bar chart. After the intervention data we will be analyzed by using same analysis procedure.

Data quality control

To maintain the data quality standardized checklist was used which is adopted from Federal Ministry of Health (FMOH) with some modification. The data was collected by two trained persons under supervision of principal investigator. The filled forms were stored in secured place so that no loss of the data would happen. During the data collection procedures, all the collected data was reviewed and checked for its completeness.

Ethical consideration

The proposal will be presented to Addis Ababa University, College of health science school of public health and before conducting the research I will get ethical clearance from Addis Ababa University College of health science school of Public Health institutional review board. In order to obtain permission to proceed with data collection, the official letter will be given to Shoarobit primary Hospital administrations. All collected data are kept confidential and used for the study purpose only.

Result and discussion

The result of the project was evaluated by out-come indicators, which can guild us, weather the project is fail or success.so, we used 6/six /out -come indicators to measure the impact of the capstone projects.

- ❖ In showarobit hospital HAI is not occurred after the project is implemented, but before the implementation there were 3 patients which acquired infections after 48 hours of their admission.
- ❖ Surgical site infection rate in decreasing from 4% to 2.3% after the implementation of the infection privation and patient safety in the hospital.

Dissemination plan

The final report will be presented as partial fulfillment of the degree of masters of public health for Addis Ababa University College of health science school of public health and copy of it will be offered to Shoarobit Primary Hospital and for other hospital and health center as required. Attempts will be made to publish the findings of this study in local and international journals.

- In showarobit hospital HAI is not occurred after the project is implemented, but before the implementation there were 3 patients which acquired infections after 48 hours of their admission
- Surgical site infection rate in decreasing from 4% to 2.3% after the implementation of the infection privation and patient safety in the hospital.
- There are two healths professional, which started PEP Treatment before the project was started. After implementation of the ipps/cash project for all health professional all necessary materials are fulfilled and trainings are given so, no one started PEP.
- The overall outpatient satisfaction survey is improving from 65%to 85% by changing the working environment green and net.
- Water is avail 24 hours per day and7 days per week in SPH.

For about 80 staffs has taken trainings or infection prevention and has to make clean and safe health facilities.

- Strong lpps/cash committee established and hand over the project activities in SPH.

Shoarobit primary hospital had given the cleaning works for third body which is known as outsourcing. Before that the IPPS committee had perform the cost benefit analysis for giving the cleaning activities to third body in the hospital.

s.n	List of indicators	Pre intervention	Post intervention	Plan of the intervention
1	Number of Healthcare acquired infection rate	3	0	0
2	Percentage of Surgical site infection	4%	2.3%	<1%
3	The number of people that started PEP treatment	2	0	0
4	% of people that completed the PEP treatment	0	100%	100%
5	Outpatient satisfaction survey: %	65%	87%	100%
6	Inpatient satisfaction survey: %	58%	85%	100%

Work Plan

Table 8:- Work plan of increasing infection prevention and patient safety in Shoarobit primary hospital,2011EC.

Activity	Months in 2011 E.C							
	November	December	January	February	March	April	May	June
Baseline data collection	X							
Proposal writing	X							
Proposal submission and defense		X						
Post Data collection			X					
Data analysis				X				
Intervention implementation				X	X	X	X	
Final defense								X

Table 9:-Gantt chart

Tasks or activities	Responsible body	December				January				February				March			
		1st wk	2nd wk	3rd wk	4th wk	1st wk	2nd wk	3rd wk	4th wk	1st wk	2nd wk	3rd wk	4th wk	1st wk	2nd wk	3rd wk	4th wk
Facilitate management committee meeting	Investigator																
Find source of finance	Investigator																
Delegate staff and supervisor to coordinate the program	Investigator																
Preparation of capstone proposal	Investigator																
Preparation of data collection tools	Investigator																
assign and training for data collectors	Investigator																
Pre-intervention ,Data collection, and Data analysis	Investigator																
prepared implementation plan	Investigator																
Implementation	Investigator and hospital																
Monitoring and evaluation	Investigator																
Assess the impact	Investigator																

Cost of the Project

Table 10:- Budget break down for capstone in increasing infection prevention and patient safety, Central part of Ethiopia, 2011.

Activities		Quantity	Unit	Duration of work	Unit price	Total cost (ETB)
Cost for data collector training	Data collectors	2	Individual	3days	210 ETB/day	2*3*210= 1260
	Supervisor	1	Individual	3 days	210 ETB/day	1*3*210= 660
Cost for data collectors per diem	Data collectors	2	Individual	10 days	210 ETB/day	2*10*210=4200
	Supervisor	1	Individual	10 days	210 ETB/day	1*10*210= 2100
Cost for data clerk		1	Individual	5 days	210 ETB/day	1*5*210= 1050
For writing		1	Secretary	5 days	210 ETB/day	1*5*210= 1050
For stationery	Pencil	15	No		2ETB	30
	Pen	20	No		5ETB	100
	Printing ink	1	No		1100ETB	1100
	Paper	6	Dozen		600ETB	3600
Training of staff after finding	All hospital staff	80	Individuals	3 days	210 ETB /day	80*3*100=8000
Project cost						23150
Contingency 10%						2315
Total cost						25465

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ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical

Conduct of the research project and for provision of required progress reports as

Per terms and conditions of the Research Publications Office in effect at the time of

Grant is forwarded as the result of this application.

Name of the student:AbebeBizuBefekadu

Date._____ Signature _____

Approval of the primary Advisor

Name of the primary advisor: BerhanTassew/MSC/

Date._____ Signature _____

Examiner _____ signature_____