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FACTORS AFFECTING THE IMPLEMENTATION OF CONTINUOUS QUALITY IMPROVEMENT PROJECT IN HEALTH FACILITIES OF SNNPR

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A THESIS SUBMITTED FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR MASTER OF ARTS (MA) DEGREE IN PROJECT MANAGEMENT

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This is to certify that the thesis prepared by Nebiyou Wendwessen , entitled: factors affecting to implement continuous quality improvement project in health facilities of SNNPR and submitted in partial fulfillment of the requirements for the degree of Masters of project management compiles with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the examining Committee:

Examiner ---------- Signature ---------- Date----------

Examiner ---------- Signature ---------- Date ----------

Advisor ---------- Signature ---------- Date ----------

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Acronyms/ Abbreviations

AIDS	Acquired immuinio deficiency virus syndrome
CQI	Continuous Quality improvement
HIV	Human immuinio deficiency virus
IHI	Institute for health care improvement
IOM	Institute of Medicine
FMOH	Federal ministry of health
MBNQAC	Malcolm Bridge national quality award criteria
MNH	Maternal and newborn health
MSD	Medical Services Directorate
NIST	National Institute of Standards and Technology
NQS	National Health Care Quality Strategy
PDSA	Plan-Do-Study-Act cycle
QI	Quality improvement
RHB	Regional health bureaus
SNNPR	South nation and nationalities people region
TB	Tuberculosi

Abstract

Continuous Quality improvement has become an important aspect of healthcare organizations. The main reasons for this development are that improvement work is viewed as a means for healthcare organizations to become safer and more effective while delivering care with better quality. Implementing quality improvement projects of maternal and child health care at health facilities is a challenge that must be undertaken to reduce maternal, neonatal and child morbidity and mortality. The objective of this study was to identify contributing factors for implementing continuous quality improvement projects in health facilities for the better delivery of health care service in the case of south nation and nationalities people, Ethiopia. A quantitative study design and approach was used in this study. The finding of this study showed that, a total of 144 health professionals were participated, giving a response rate of 100%. Majority of the respondents (75%) were male and 35% said that their respective health facility not implemented continuous quality improvement project. Variables like leaders receptive to new ideas, leaders share information/ data about health facility service delivery status, health facility has a quality improvement project plan, Staff know using indicators to tell progress about service delivery, health facility assess client satisfaction level, were the independent predictors of CQI project implementation.

Key words: Continuous quality improvement, project, implementation, health facilities, SNNPR, Ethiopia

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Continuous Quality improvement (CQI) has become an important aspect of healthcare organizations. The main reasons for this development are that improvement work is viewed as a means for healthcare organizations to become safer and more effective while delivering care with better quality. Healthcare organizations are forced to change and improve, due to an aging population (demographic pressure) (Nolte & McKee, 2003), technical innovations and medical treatment development (Grol, 2001), financial strains (Anell, 2005); National Board of Health and Welfare, 2009) and expectations of stakeholders such as government and patients (Anell, 2005; Wu & Hsieh,2011). Today, there are those who argue that more resources will not be the solution to these problems (National Board of Health and Welfare, 2009). Other alternatives need to be taken into account, and continuous quality improvement is considered one of the central strategies for handling pressures for change and improvement (Stenberg & Olsson, 2005). Riley et al. (2010) stated that healthcare *"by eliminating inefficiency, error, and redundancy can continually improve critical processes and reduce costs associated with poor quality"*.

The 2015-2020 Ethiopian National Health Care Quality Strategy (NQS) was crafted as a call to action to improve quality across the entire Ethiopian health system. Formally launched in March 2016, it was developed in order to achieve the health improvement goals stated in the Health Sector Transformation Plan. The NQS was launched as part of the four transformation agenda unveiling where all Regional Health Bureaus (RHBs), representative health facilities and health care workers were included as part of the process (FMOH web site).

The NQS builds on the existing quality effort in Ethiopia which includes a number of national quality initiatives and tools that have been developed and implemented over the last 20 years – all of which have been aimed at improving the quality of health care delivery and services. The development of the strategy was a collaborative effort led by the then Medical Services Directorate (MSD) at the FMoH with the technical support of the Institute for Healthcare Improvement (IHI) and involvement of partners working on quality and other key stakeholders.

The aim of the NQS is to consistently improve the outcomes of clinical care, patient safety, and patient-centeredness, while increasing access and equity for all segments of the Ethiopian population, by 2020. The strategy focuses on ensuring reliable, excellent clinical care, protecting patients, staff, and attendants from harm, and improving the efficiency of the delivery of care, while increasing access, equity, and dignity of care for all segments of the Ethiopian population.

The Federal Ministry of Health (FMoH) and international organizations have undertaken efforts to improve the quality of MCH, but the need for continuous improvement remains. The international non-governmental organization "Institute for health care improvement (IHI)" has proposed a five-year project aiming to introduce continuous quality improvement (CQI) approaches and improve maternal and newborn health (MNH) care in five regions of Ethiopia, namely Tigray, Afar, Amahara, Oromia and South nation and nationalities people region (SNNPR). The project implementation was started in 2016 by selection one prototype woreda from each region then the implementation scale up in to 22 woredas across the nation as the project reach test of scale phase

1.2 Implementations of continuous quality improvement Projects in health facilities

The Institute for Health Care Improvement (IHI) lays out several steps for implementing a quality improvement project. First, an organization needs to explicitly state what they are

trying to accomplish by setting “time specific and measurable aims” (IHI website). Next, an organization needs to establish measures that will indicate whether the improvement works. Changes that result in an improvement need to be identified and then tested in a Plan-Do-Study-Act (PDSA) cycle. Specifically, the change needs to be planned, tried, studied, and then members must act on what they have learned (IHI website). PDSA cycles should start out in a small group before being tried in a large institutional setting. Finally, the changes should be made throughout the institution. Most projects that use rapid PDSA cycles to address issues with patient handoffs measured their compliance with a standardized communication method (Wilson, 2007).

It is believed that small regional collaborative and local projects are vital to implementing healthcare quality improvements. A regional collaborative is more cost and time effective for facilities than a project that requires significant travel. A small collaborative provides the opportunity for participation by more staff than just the “usual suspects” of key administrative staff thus increasing its chance of success. A smaller group provides for increased opportunity for discussion and interaction among participants and encourages participation of community organizations.

Schouten et al.2010 described Factors influencing for successful implementation of quality-improvement in the form of collaborative: clinical experts and experts in quality improvement provide ideas and support for improvement, multiprofessional teams from multiple sites participate, there is a model for improvement (setting targets, collecting data, and testing changes), and the collaborative process involves a series of structured activities, (Schouten et al.2010). Moreover, Baldrige Award is mentioned factors contributing for successful implementation of CQI categorized in to seven thematic areas: leadership, strategic planning, customer and market focus, information and analysis, human resource development and management, process management, and business results. (NIST, 2017)

1.3 Statement of the Problem

Disparity has increased, with a third of the global population wallowing in absolute poverty (Taylor 2002). Each year, we are losing more than 11 million children to preventable diseases as a result of inequalities in health and development and problems are worst where resources are least available; those who need more care have the least access (Gwatkin et al., 2000).

The disparities and inequalities in the Ethiopian health context, more or less similar with that of the Global phenomena. According to the World development indicators Data, in Ethiopia, Life Expectancy at birth (years, both sexes) not exceeded 64years , Infant Mortality (per 1,000 births) accounts 41,and 350 Maternal Mortality (per 100,000 births) recorded in the country, which is one of the implication of poor quality health service.

To overcome those inequalities, disparities and patent safety, inefficiency and infectiveness problems continuous quality improvement projects with in the health facilities is an ideal solutions agreed by the ministry of Heath Ethiopia and quality lead partners.

Implementing quality improvement projects of maternal and child health care at health facilities is a challenge that must be undertaken to reduce maternal, neonatal and child morbidity and mortality.

Deficiencies in continuous quality improvement project implementation represent neither the failure of professional compassion nor necessarily a lack of resources. Rather, they result from gaps in knowledge, inappropriate applications of available technology, or the inability of organizations to change. Local health care systems may have failed to align practitioner incentives and objectives, to measure clinical practice, or to link quality improvement to better health outcomes (John W. Peabody, et al, 2006).The complexity of health care systems and delivery of services, the unpredictable nature of health care, and the occupational differentiation and interdependence among clinicians and systems make implementing quality improvement projects difficult (Ronda, 2008).

Despite the fact improved health status through continuous quality improvement leads to increased productivity, educational performance, life expectancy, savings and investments, and decreased and expenditure on health care, according to 2010 E.C. halve year report of SNNPR regional health office, many health facilities in South nation and nationalities region a bit late to implement quality improvement projects based on the prioritized problems with in the community and the health facility. Even, some health facility still not yet starts implementation of continuous quality improvement projects.

The challenges of implementing quality improvement project still there and hindering the health facilities to overcome quality and equity problems of the community. Moreover, literature on continuous quality improvement project implementation factors and challenges in health care focuses on mainly in developed countries but limited in developing countries including Ethiopia

Therefore, this study identified the major factors contributing for the efficient implementation of the quality improvement project in the health facilities located in the SNNPR.

1.4 Research Questions

The research question guided by the following research questions

- What are the success factors for continuous quality improvement project implementation?
- What is the level of involvement in the health facility on quality improvement project implementation by health professionals?
- Which factors influence leadership in healthcare quality improvement projects implementation?
- How do managers and health professionals think patients can be resources in quality improvement project implementation?

- How does a specific quality improvement project within Ethiopian healthcare implemented over time?

1.5. Research Objective

1.5.1. General objective

The general objective of this study was to identify contributing factors for implementing continuous quality improvement projects in health facilities for the better delivery of health care service in the case of south nation and nationalities people, Ethiopia

1.5.2. Specific Objectives:

The Specific objectives of this study was the following:

- To identify factors that determines implementation of continuous quality improvement projects in the health sector
- To assess the level of continuous quality improvement project implementation in the health sector

1.6. Significance of the Study

The findings and recommendations of this research believed to be useful evidences and resources to overcome continuous quality improvement project implementation challenges in the health sectors of Ethiopia. In connection with this, this research was provide evidence and knowledge for public health care facilities to see policy/implementation gaps to ensure involvements of health professionals and leader to improve quality of health care delivery for clients in need of the service. Besides, the research findings will also trigger further interest for health professionals and other researchers to conduct additional researches on the area**.**

1.7. Scope of the Study

The thematic scope of the study was delineated in identifying the factors of continuous quality improvement project implementation in the health facilities in the case of South nation and nationalities people, Ethiopia. While assessing the factors of quality improvement

project implementation, the study was examined certain dimensions-i.e. the level of involvement by health professional and leaders in the continuous quality improvement project implementation. The geographical scope of this study was restricted to in the South nation and nationalities people region health facilities starting implementation of quality improvement project with the support of institute for health care improvement project. The research respondents of this research were health professionals who are participating in the implementation and non- implementing quality improvement project in the health facilities. The study was a cross sectional study and was completed within three month.

1.8. Intervention and method for problem solving mechanism

In collaboration with the Federal Ministry of Health and Regional Health Bureaus, Institute for Health Care Improvement designed a results-based Improvement Collaborative for improving quality of services provided to mothers and newborns. This work will serve as a demonstration on how the national quality strategy will be translated into practice to transform quality using capacitated health care professionals. The Collaborative is designed to have three phases namely, prototype phase, test of scale phase, and scale-up phase. The first phase has an objective of understanding the implementation of a typical Collaborative approach and developing a change package to improve MNH quality across different geographies and contexts. Test of scale phase is designed to test a sustainable Improvement Collaborative arrangement which is fully integrated into the existing health system of the regions in the country. Full scale-up process will be designed based on the lessons learnt during the prototype and test of scale phases.

Prototype phase had been implemented in the four bigger regions of which three completed four learning sessions and the fourth one is at the third action period after completing the three learning sessions. Using the three prototype Woredas work, change package is developed for further use among themselves and at the test of scale sites. Sustainability work

is underway in the prototype sites. Test of scale Woredas are selected by the regional health bureaus using guiding selection criteria for maximum learning process. After the selection of the Woredas, stakeholders were invited to participate on a design workshop where they suggested on how to modify the Collaborative arrangement to be it scalable and sustainable within the current health system arrangement. This term of reference is mainly based on the common understanding of this workshop arrangement and joint design processes.

1.9. Limitations of the Study

There was financial and time limitation in undertaking this research at large scale. Besides, one of the challenges in conducting this research was absences of adequate local studies in the area of continuous quality improvement project implementation factors in the health facilities. The focus of the study was delimited to purposively selected health professionals and leaders within specific geographic areas and selected health facilities supported by institute for health care improvement project. Beside the listed limitation, since the study was use cross-sectional study with limited sample size the finding will have “chick-egg dilemma” to have deduce the causal and effect association.

1.10. Organization of the Research Report

This study was organized in five chapters. In the first chapter the introduction of the study is presented. Review of literature and research methodology with all its components are explained in chapter two and three, respectively. Then in the fourth chapter, will present the finding form data analysis and interpretation including discussion was addressed. Finally in the fifth chapter the finding conclusion and recommendation for future action and improvement was suggested.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Theoretical Review

Concepts and definitions

This section describes concepts and definitions related to quality, quality improvement, project and quality improvement project and define how they will be used in this thesis.

2.1.1 Quality improvement as a concept

Quality is a complex concept, with many different descriptions and interpretations. Dahlgaard, et al. (2011) stated that quality can be a relative phenomenon, meaning different things to different people. One of the founders of QI, Edward Deming (2000) writes, "Quality should be aimed at the needs of the customer, present and future". Classical theory in quality management and improvement proposes that the key principles are customer focus, continuous improvement, process orientation, teamwork and decisions based on facts (Dean & Bowen, 1994; Hackman & Wageman, 1995; Sousa & Voss, 2002; Schroeder et al., 2005). Over the years the concept of quality developed from industrial control thinking (Bergman & Klevsjö, 2002) to a comprehensive view based on the principle of continuous improvement (Batalden & Davidoff, 2007). Sometimes QI knowledge is called improvement science and most researchers and practitioners agree that it has developed and become more common since its introduction to healthcare, some twenty years ago. In the United Kingdom the Health Foundation is working to improve improvement science (Health Foundation website). Their report "Improvement Science" (Health Foundation, 2011), stated that "improvement science is about finding out how to improve and make changes in the most effective way" . Bessant et al. (2001) stated that "there is a considerable and unhelpful confusion in the way the term 'continuous improvement' is used". A number of different expressions (e.g. quality

improvement, continuous improvement, quality assurance) are used. Riley et al. (2010) conclude that healthcare has not embraced a shared and common definition for QI. The U.S. Department of Health and Human Services has urged the need to find a common definition of QI in healthcare, helping both practitioners and patients (customers) to know what they can expect (Riley et al., 2010). Batalden and Davidoff (2007) responded to the question "What is quality improvement?" as "the combined and unceasing efforts of everyone healthcare professionals, patients and their families, researchers, payers, planners and educators to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development (learning)".

2.1.2. Definitions of quality

The word quality originates from the Latin word "qua litas", meaning "usefulness". The Oxford dictionary (website) defines quality as "the standard of something as measured against other things of a similar kind; the degree of excellence of something", and the Swedish Academy Dictionary (SAOL, 2006) defines quality as type, grade, state and character in a positive aspect.

Dean and Bowen (1994) define quality management, or what they refer to as total quality, as a "philosophy or an approach to management that can be characterized by its principles, practices and techniques. Its three principles are customer focus, continuous improvement, and teamwork". The American Institute of Medicine (IOM) defines quality in healthcare (medicine) as the extent to which health services increase the likelihood of desired health outcomes consistent with current professional knowledge for individuals and citizens (Sorian, 2006). Sollecito and Johnson (2011) emphasize that QI in healthcare is a structured process for involving the personnel in a continuous flow of improvements, aiming to provide high-quality healthcare that meets or even exceeds expectations.

In this thesis the term “quality improvement” is referred to in healthcare settings and used in the more comprehensive sense, as the attitude towards, and intention by, everyone inside the organization to improve processes and achieve satisfactory results regarding performance and patients (Batalden & Davidoff, 2007). Quality management is a leadership model related to quality improvement and includes strategies, methods, and ways of working to achieve continuous improvement in goods, processes and services (Hackman & Wageman, 1995).

2.1.3. Continuous quality improvement

Improvement is generally considered the act of “doing better” and while all improvements presuppose change, not all changes are improvements (Batalden & Davidoff, 2007). Quality improvement (QI) in healthcare is made up of diverse models and methods, aiming to improve healthcare, making care more effective and efficient, and to increase safety for those being served, the patients (Donabedian, 2003). A central problem for many healthcare systems is how to organize and manage improvements.

2.1.4. Why quality improvement?

In the book To Err Is Human (Kohn et al., 2000), the U.S. Institute of Medicine (IOM) published facts about the problems and challenges that healthcare was facing. The book highlights patient safety issues; patients get hurt or even die from the care that was supposed to cure them. Medical mistakes were claiming more victims than motorcycle accidents or AIDS, related to inappropriate care processes and working methods (ibid.). In the next publication, crossing the Quality Chasm (IOM, 2001), six important areas to improve healthcare were identified: safety, effectiveness, patient-centeredness, timeliness, efficiency, and fairness. The point was made that the problems mainly were at an organizational level. Stenberg & Olsson (2005) speak of system transformation, with the change perspective focusing on both individual and organizational system levels.

2.1. 5. Implementation

The concept of Implementation is closely connected to change and improvements (IHI website). In research, Improvement Science (Ting et al., 2009) and Implementation Science (Fixen et al., 2005) are two clearly distinct fields. In practice, however, it is often hard to draw the boundary line between them. However, this thesis will be situated within the field of improvement science, and the field of implementation science will not be applied. The first reason for this is that this thesis mainly deals with change and improvements from a specific case view, and in this case, implementation are not explicitly included, which can be seen as a weakness, but not unusual in improvement initiatives in healthcare (Wallin, 2009).

The aim of implementation was sometimes to introduce a new method or start to use checklists or registers, which is a kind of implementation. But the overall QI initiative had no established implementation strategies. The second reason is that implementation is a science of its own and including that would have needed some background and theories covering implementation science as well, which may have contributed to more confusion than clarity about the purpose of this thesis.

2.1.6. Continuous quality improvement implementation models

An appropriate, robust, and sustainable model for improvement in health system performance is essential in order to reverse the declining trends in health and development status and break the vicious cycle of poverty and ill-health in Ethiopia. Improvement would be contingent upon the convergence of commitment, expertise, and resources throughout the system. A robust model for improvement would embrace all the dimensions that are critical to health by addressing not only the risk factors of disease but also cross-cutting issues and linkages between health and employment, food security, nutrition, and financing for health (Joy F., 2017)

The essential elements of the suggested model include decentralized governing structures linking the health system to communities; identification of an essential care package for health (ECPH) based on peoples' priorities; an improved information system to provide evidence of improvement in service access, delivery, and outcomes; and regular dialogue among stakeholders to enhance informed demand, responsibility, and accountability. The model attempts to pay due regard to the people's own beliefs, knowledge, customs, experiences, practices, systems, and structures that give meaning to the ECPH and mitigate the discontinuity between people's perceptions and the health intervention package through regular dialogue (Joy F., 2017)

2.1.7. Continuous quality improvement project in Ethiopia

Equity and quality, which is one of the four transformation agendas, is the core goal of the health sector transformation plan. Ethiopian National Healthcare Quality Strategy, which was launched in March 2016, builds on the plan laid out in HSTP to further align key stakeholders across prioritized interventions that will drive large-scale improvement in quality of care delivery over five years. The ultimate aim is to consistently improve the outcomes of clinical care, patient safety, and patient-centeredness, while increasing access and equity for all segments of the Ethiopian population, by 2020 (FMOH web site).

Informed by the National Healthcare Quality Strategy a quality structure was established at federal level; the Health Services Quality Directorate to set the quality agenda across Quality Planning, Quality Control, and Quality Improvement, and drive this quality agenda forward. A similar structure is being established in all regional health bureaus as per their context. All public hospitals currently have a clinical governance and quality improvement unit leading Quality Improvement in the facilities. The federal ministry of health plays a crucial role in leading the Quality agenda throughout the sector, and in grounding the concept of quality in all its forms at the all levels in the healthcare system, and in doing so: Design and implement

national initiatives that will improve the quality of the health service delivery and Develop standards, protocols, manuals and implementation guidelines for the services provided in health facilities. The Federal Ministry of health now promotes the Model for Improvement & Kaizen, quality improvement methodologies to be adopted across multiple sectors in the country, and as such the Directorate will be responsible for advocacy as well as capacity building around these models. The National Healthcare Quality Strategy focuses on improving quality across the spectrum of the health care system with special emphasis on 5 priority areas: Maternal, Neonatal & child health, specifically reducing maternal & neonatal mortality, Malnutrition, especially prevention/management of severe acute malnutrition, Communicable diseases, particularly Malaria, HIV & TB, Non communicable diseases prevention/management and Clinical & Surgical services (ENHQS,2016).

2.2 Empirical review

2.2.1. Factors affecting continuous quality improvement projects implementation

Factors affecting in continuous quality improvement projects implementation important and common themes found from the literature in continuous improvement were: focus in management, focus on organizational culture, focusing on employees, focusing in the processes, quality management system or standardization and measurement, and learning from results. These improvement approaches and efforts are facing a lot of challenges. These are; less examination of multiple contexts and analysis in studying improvement, weak association between change processes and organizational performance outcomes, less investigation of international and cross-cultural improvement method adoption, and episodic versus continuous change processes, and weak partnership between scholars and practitioners in studying various approaches (Cheng & Heng, 2002). Besides, Cheng and Heng mention lack of senior management understanding and employee involvement, failure to follow

through agreed actions and objectives, lack of support to teamwork, and a failure to match up improvement plan to the skills and resources in the plan teams as the main obstacles to continuous improvement (CI). On the other hand, critical success factors to CI initiatives include: top management support, open communication, effective coordination, and mutual trust (Cheng & Heng, 2002). Moreover, (Lau, 2001) found that soft elements impact QM initiatives. Some of the soft elements are culture, trust, teamwork, and education and training, top management leadership, employee involvement and customer satisfaction

Dixon-Woods et al (2012), identified 10 key factors in securing continuous quality improvement project implementation under three broad themes. Design and planning of improvement interventions theme include challenges: Convince people that there's a problem Challenge, Convince people of the solution, Data collection and monitoring and 'Projectness' and ambitions. Organisational and institutional contexts, professions and leadership include factors of: Organisational context, Tribalism and lack of staff engagement, Getting leadership for quality improvement right and Incentivizing participation and 'hard edges' Relying on the intrinsic motivations of staff for quality improvement will take a long way. Beyond the intervention: sustainability, spread and unintended consequences theme include challenges: Securing sustainability and Side effects of change

According to Somatunga et al (2015), there are various roadblocks to CQI project implementation, some of the factors are Insufficient training of the staff, First line supervisor resistance; Lack of management support for the quality improvement initiatives, Organization objectives are not being publicized, Mostly government hospitals are disorganized and staff spend most of their time for non-value added activities. Hence they are unable to concentrate on their quality improvement activities, Incompatible rewards and compensation, Lack of planning. Another important aspect for barriers is no proper planning for quality

improvement work and No clear measure of success. Sometimes the success was not communicated or shared with the team.

2.3 Conceptual Framework

The framework of this study, designed to assess the factors associated with continuous quality improvement project implementation, was derived from concept of The Malcolm Baldrige National Quality Award (MBNQA)(NIST, 2017). The Baldrige Award is composed of seven separate, weighted dimensions: leadership, strategic planning, customer and market focus, information and analysis, human resource development and management, process management; and business results. For health facilities provides a framework for implementing a quality improvement project and establishes the benchmarks for measuring future progress.

The leadership factors examines senior leaders' personal leadership and involvement in creating and sustaining values, company directions, performance expectations, customer focus, and a leadership system that promotes performance excellence. The Strategic Planning factors examine how the company sets strategic directions, and how it determines key action plans. The Customer and Market Focus factors examine how the company determines requirements and expectations of customers and markets. The Information and Analysis factors examine the management and effectiveness of the use of data and information to support key company processes and the company's performance management system)(NIST, 2017).

The Human Resource Development and Management factors examine how the work force is enabled to develop and utilize its full potential, aligned with the company's objectives. The Process Management factors examine the key aspects of process management, including customer-focused design, product and service delivery processes, support processes, and supplier and partnering processes involving all work units. The Business Results factors

examine the company's performance and improvement in key business areas - customer satisfaction, financial and marketplace performance, human resource, supplier and partner performance, and operational performance)(NIST, 2017).

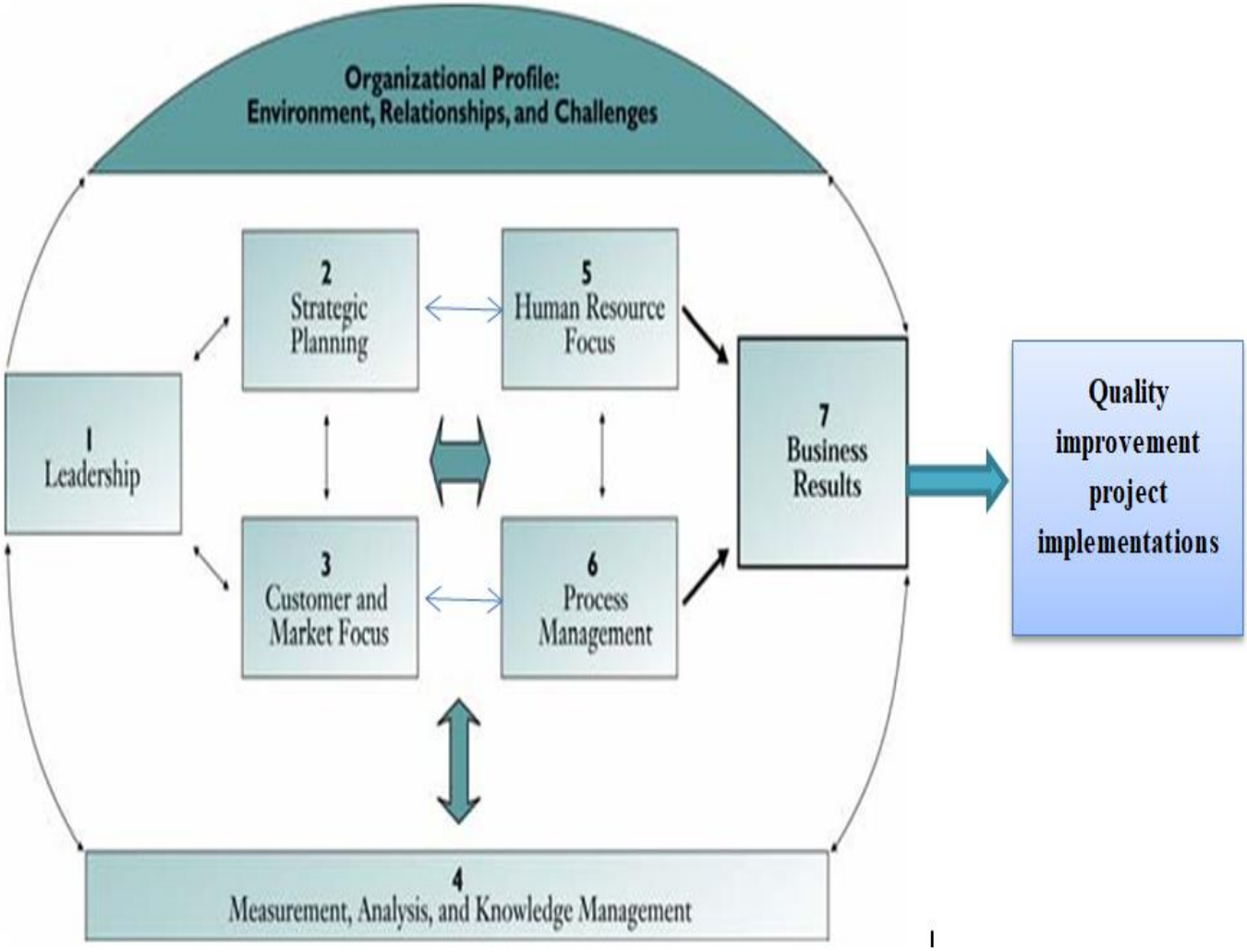

Figure1: conceptual framework of factor affecting continuous quality improvement project in health facilities (NITS, 2017)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter was looked at the methodology was employed to achieve the objective of the study. Moreover, It was focused on the study design, data collection, sampling design, data collection instrument, data management and analysis that was used for the study.

3.2 Description of the study Area/Organization

The study was conducted in SNNPR two woredas health facilities, namely Dugana fango Woreda (Wolita zone) and Chencha Woreda (Gamogofa zone)

3.3 Research Approach and Design

A cross-sectional study design with quantitative approach was employed to conduct the investigation on continuous quality improvement project implementation factors in the health facilities of SNNPR, Ethiopia; from April to May 2018.

3.4 Data Type and Source

Both primary and secondary sources of data were used in this study. Primary sources data was collected from health professionals and health managers both involved and on the process of continuous quality improvement project implementation. Secondary data sources for this study were published and unpublished continuous quality improvement related literatures, assessments, national guidelines.

3.5 Target population and Sample

3.5.1 Target population

Source population

- All health care providers working in health facilities within SNNPR
- All managers who have working health facilities within the SNNPR

Target population

- Health care providers who are working in health facilities SNNPR supported by IHI
- Leaders of health facilities in the SNNPR supported by IHI.

3.5.2 Sample size determination &Sampling selection procedure

The convenient sampling technique was used to select the research participants from two Woredas of SNNPR all health facilities, since there is limited time and resource for data collection. Accordingly, six health centers (Dorze, Ezzo, Doko Zolo, Wobera, Zozo, Dokomesho) and two hospitals (Chencha primary Hospital & Arbaminch general hospital) from Chencha woreda, Gamogofa zone and Five health center (Dendo, Edo, Kerchech, Dimitu and Anka) and one hospital (Bitena primary Hospital) from Dugna fango Woreda, Wolita zone were included in the study. Thus, conveniently selected 144 health care providers and leader working in IHI supported health facilities was participated in the study.

3.6 Data Collection Methods and tools

Structured self-administered questioner with the response options of multiple choices was used as a data collection instrument for the quantitative method used in this study. This type of response option is easy to fill out, takes little time, will keeps the respondents on the subject is relatively objective, and quite easier to tabulate and analyze. After having their verbal consent, data on factors contributing for quality improvement project implementation, the health professional's level of involvement, challenges faced during CQI project implementation and stakeholder involvement for the continuous quality improvement project implementation in the health facilities will be collected by administering a pre-tested structured questionnaire. Malcolm Bridge national quality award criteria (MBNQAC) data collection tool adopted from National Institute of Standards and Technology (NIST) of united state (NIST, 2017). Since the number of the study population will be small in number only

one data collector will be participated in the data collection process. In regard to the secondary data both general literature and related works will be reviewed.

3.7 Descriptions of variables

Dependent variables

Continuous quality improvement project implementation (yes or no)

Independent variables

leaders receptive to new ideas, leadership created a safe work environment, leadership encourages learning, Health professionals understand clients need, health staff cooperate and work as a team, Quality improvement committee or team, health staff aware of QI models and barrier for quality improvement project implementations.

3.8 Operational definitions

Project: is a temporary, non-repetitive, goal-oriented activity that has measurable outputs and a particular set of constraints.

Quality: is the 'extent to which a health care service or product produces a desired outcome'.

Quality improvement: is a system by which better health outcomes are achieved through analyzing and improving service delivery processes.

Continuous Quality Improvement is a philosophy that encourages all health care team members to continuously ask: "How are we doing? And can we do it better?

3.9 Data analysis and Data Presentation

Data was checked manually for completeness, and then coded, entered and analyzed using SPSS version 20 software. After the data was explored and cleaned, descriptive analyses such as percentages, frequency distribution and measures of central tendency were conducted. Then bivariate analyses between dependent and independent variables were performed using bivariate logistic regression. Finally, those variables showed significant

association on bivariate analyses were entered in to multiple logistic analyses to control possible confounding variable and to identify independent predictor variable. During the analysis, 0.05 p-value and 95% confidence interval (CI) was used to judge the significance of the associations. So that p-value less than 0.05 were taken as significant association.

The analyzed was presented in the form of table and graphs as showed in result chapters.

3. 8 Dissemination of results

The findings of the study will be submitted to the Addis Ababa University School of commerce department of project management, Dugna fango and Chencha district health office, Wolaita and Gamogofa zone zonal health department, SNNP Regional State Health Bureau and other concerned body. Finally, attempts will be made to present the results on scientific conferences and to publish the results of the study on peer reviewed journals.

3.9 Ethical Consideration

Concerned management officials of the health facilities were informed about the study. In addition, the respondents were asked for their consent prior to the tools to gather the relevant information. The respondents' responses were taken absolutely confidential and they were informed that no part of their response will be exposed to anyone without their complete consent

CHAPTER FOUR

FINDING OF THE STUDY

4.1 Reliability Assessment

Gliem & Gliem (2003) explained that when using Likert-type scales it is imperative to calculate and report Cronbach's alpha coefficient for internal consistency reliability for any scales or subscales one may be using. The analysis of the data then must use these summated scales or subscales and not individual items. If one does otherwise, the reliability of the items is at best probably low and at worst unknown. Thus, in this study, in order to prove the internal consistency of the data collection instrument and the reliability of all dimensions Cronbach's Alpha was used. Internal consistency testing Internal homogeneity Cronbach's alpha analysis of the three scales revealed alphas between .85 and .89, which indicates very good reliability for all three factors of the instrument. Intercorrelations All factors or scales correlated significantly and positively. Scale correlations ranged from .205 (health facilities problem solving mechanism' and 'easiness of QI steps) to .398 ('staff satisfaction and 'indicator uses).

4.2 Socio-demographic characteristics

A total of 144 health professionals were participated in this study all of them were willing and replied to the interview, giving a response rate of 100%. Majority of the respondent of was 103 (75%) were male. Concerning about the age group the majority which is 79 (54.9 %) were found with the age group of between 22 and 30. The table also denotes that 49 (34 %) of the respondents were nurses followed by 32 (22 %) of midwives and 32 (22 %) were Health officers by the profession. Frequency distribution of the educational level of the respondents, showed the majority which is 76 (52 %) of have Diploma, 52 (36.1%) have first degree and the rest 16(11.1 %) had post graduate degree, as showed in the table 1 below.

Table 1:- Socio demographic characteristics of Health professionals working SNNPR, Ethiopia, (N= 144).

Variable	Frequency	Percent
Sex		
Male	108	75
Female	36	25
Total	144	100
Age		
22-30	79	54.9
31-40	49	34.0
41-50	16	11.1
Total	144	100.0
Profession		
Midwife	32	22.2
Nurse	49	34.0
HO	32	22.2
Physician	8	5.6
HIT	8	5.6
Other	15	10.4
Total	144	100.0
Educational level		
Diploma	76	52.8
Degree	52	36.1
Post graduate	16	11.1
Total	144	100.0
Working facility		
Health center	80	55.6
Hospital	44	30.6
Woreda health office	20	13.9
Total	144	100.0

Source: Owen survey, 2018

4.3 Implementation status of continuous quality improvement project

Among the 144 respondents 65% said that their respective health facility, whether health center or Hospital, implemented continuous quality improvement project. There rest 35 % did not even start the implementation preliminary process to improve the service delivery related to health care, as showed in the figure 2 below.

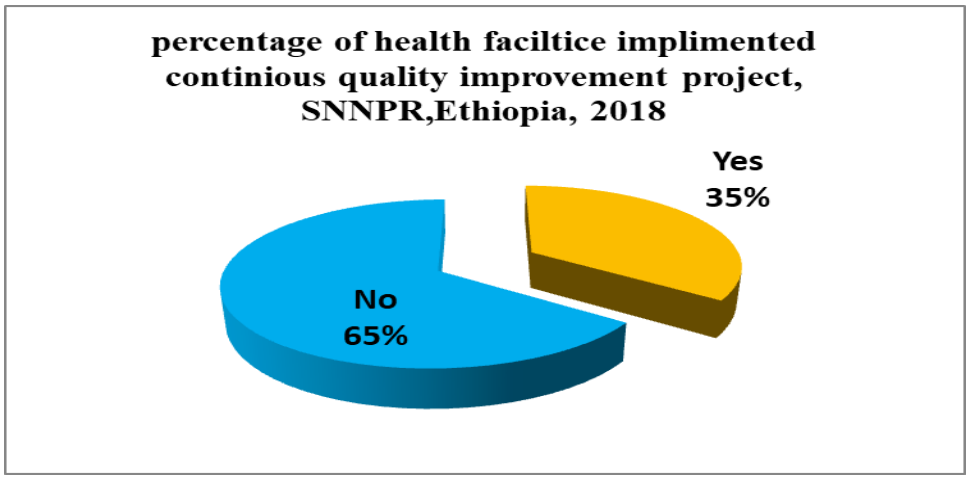

Figure 2: Percentage of health faciltice implimented continious quality improvement project, SNNPR,Ethiopia, 2018

4.4 Leadership factors that contribute for implementations of continuous quality improvement project

Leadership factors that contribute for continuous quality improvement project implementation assessed by leader's receptiveness for new idea, use of organization value, creating safe work environment and others. Accordingly, as showed in the table 2 below more that halve of (51.4%) the leaders were not receptive for new ideas moreover, majority of leader were not encouraging learning (62.5%) and engaged in quality improvement project implementation process (66%).

Table 2: Leadership factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
leaders receptive to new ideas		
Yes	62	43.1
No	74	51.4
I don't know	8	5.6
Total	144	100.0
leader's uses values of the organization's to guide health facility activities		
Yes	46	31.9
No	86	59.7
I don't know	12	8.3

Total	144	100.0
leadership created a safe work environment		
Safe work environment created	36	25.0
There is initial activities to create safe working environment	80	55.6
Safe working environment not created	28	19.4
Total	144	100.0
leaders share information/ data about health facility service delivery status		
Yes	97	67.4
No	47	32.6
Total	144	100.0
leadership encourages learning		
Yes	44	30.6
No	90	62.5
I don't Know	10	6.9
Total	144	100.0
leadership asks employees to generate change/innovative ideas		
Yes	51	35.4
No	93	64.6
Total	144	100.0
leaders was engaged in quality improvement projects		
Yes	45	31.3
No	95	66.0
I don't Know	4	2.8
Total	144	100.0

Source: Owen survey, 2018

4.5 Planning related factors that contribute for continuous quality improvement project implementation

Health facilities that have quality improvement project plan accounts 112 (77.8%) but 27.8 % of the plan was not recognized or known by the care providers. As a planning component, Health facility have different mechanism to solve quality related problems, among the mechanisms 19.4% of health facilities assigns individual to solve the problem, 66.7 % Set up a multi-disciplinary team for each problem and 11% of the health facilities have permanent team is available.

Table 3 Planning related factors that contribute for continuous quality improvement project implementation in Health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
health facility has a quality improvement project plan		
Yes	112	77.8
No	28	19.4
I don't Know	4	2.8
Total	144	100.0
health staff know about quality improvement project plan		
Yes	92	63.9
No	40	27.8
I don't Know	12	8.3
Total	144	100.0
Health facility mechanism to solve quality related problems		
Assigns individual to solve	28	19.4
Set up a multi-disciplinary team for each problem	96	66.7
A permanent team is available	16	11.1
Other	4	2.8
Total	144	100.0
Staff know using indicators to tell progress about service delivery		
Yes, they able to report and calculate indicators	42	29.2
Yes, they able to report progress figure	52	36.1
No, they can't	34	23.6
I don't know	16	11.1
Total	144	100.0

Source: Owen survey, 2018

4.6 Customer factors that contribute for implementations of continuous quality improvement project

To implement quality improvement projects ultimately customer related factor used for identifying quality related problems and implementing the possible solution as a project. Unfortunately, only 50% and 38.4% of respondent said the health facilities has client feedback receiving mechanisms and health facilities measures client satisfaction regularly, respectively, as showed in the table 4 below.

Table 4: Customer factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
Health professionals understand clients need		
Yes	108	75
No	28	19.4
I don't know	8	5.6
Total	144	100
Health professionals understand client's preferences		
Yes	72	50
No	63	43.8
I don't know	9	6.3
Total	144	100
health facility have client feedback receiving mechanism		
Yes and reviewed frequently	72	50
Yes but not reviewed	52	36.1
No	16	11.1
I don't know	4	2.8
Total	144	100
health facility assess client satisfaction level		
Yes regularly	56	38.9
Yes but not regular	60	41.7
No	28	19.4
Total	144	100.0
Health facility Encourage Clients/ community involvement in decision making		
Yes regularly	44	30.6
Yes but not regular	72	50.0
No	28	19.4
Total	144	100.0

Source: Owen survey, 2018

4.7 Human resource factors that contribute for implementations of continuous quality improvement project

Only twelve (8.3%) respondent said their respective health facilities staff fully trained on quality improvement project implementation. Majority of respondent (61.1%) mentioned that, Staff recognition for the work they performed in the health facilities were available. quality improvement team for project implementation were available in the 63.9% int the health facilities were respondent work. Only 27.3% of respondent said that their respective health

facilities have enough health staff to implement continuous quality improvement project, As showed in the table 5 below.

Table 5: Distribution of Human resource factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
health staff cooperate and work as a team		
Yes	116	80.6
No	28	19.4
Total	144	100.0
health staff are recognized for their work		
Yes	88	61.1
No	56	38.9
Total	144	100.0
staff have job descriptions		
Yes	57	39.6
No	87	60.4
Total	144	100.0
health staff trained on quality improvement		
Yes all of the staff	12	8.3
Yes some of the staff	120	83.3
No	12	8.3
Total	144	100.0
Quality improvement committee or team		
Yes	92	63.9
No	44	30.6
I don't know	8	5.6
Total	144	100.0
health facility has enough health staff		
Yes	40	27.8
No	104	72.2
Total	144	100.0

Source: Owen survey, 2018

4.8 Measurement, Analysis, and Knowledge Management factors that contribute for implementations of continuous quality improvement project

In 25% of respondent health facilities all staff able to measure the quality of their work and in 16.7% of respondent health facilities no one able to measure the quality of their work. According to the respondent 11.1% health facilities all health staffs know how to analyze the

quality of their work to see if changes are needed and 36.1 all health staffs in the health facilities use these analyses for making decisions about their work.

Table 6: Distribution of Measurement, Analysis, and Knowledge Management factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
health staffs know how to measure the quality of their work		
Yes all of staffs	36	25
Yes some of staffs	84	58.3
Not at all	24	16.7
Total	144	100
health staffs know how to analyze the quality of their work to see if changes are needed		
Yes all of staffs	16	11.1
Yes some of staffs	96	66.7
Not at all	32	22.2
Total	144	100.0
health staffs use these analyses for making decisions about their work		
Yes all of staffs	52	36.1
Yes some of staffs	68	47.2
Not at all	24	16.7
Total	144	100.0

Source: Owen survey, 2018

4.9 Process Management and result factors that contribute for implementations of continuous quality improvement project

One third of respondent (33.3%) mentioned that health facility health staff can get every resource they need to do their job in the health facilities and 35.4% respondent agreed with health staff aware of QI models for implementation. Moreover, 76.4% of respondent believed that Quality improvement project was or will contribute the improvement of work at their respective health facilities Health facility

Table 7: Distribution of Process Management and result factors that contribute for implementations of continuous quality improvement project in the health facilities of SNNPR, Ethiopia, 2018

Variable	Frequency	Percent
health facility health staff can get every resource they need to do their job		
Yes and every thing	48	33.3
Yes but not everything	76	52.8
No	20	13.9
Total	144	100.0
health staff aware of QI models		
Yes and utilized one or more models	51	35.4
Yes but not utilized	35	24.3
No	45	31.3
I don't know	13	9.0
Total	144	100.0
Easiness of steps to develop the quality improvement projects		
Very easy	24	16.7
Moderately easy	87	60.4
Quite difficult	33	22.9
Total	144	100.0
health staffs satisfied with their work		
Satisfied	49	34.0
Not satisfied	80	55.6
I don't know	15	10.4
Total	144	100.0
health facility removes barrier for quality improvement project implementations		
Yes almost all barriers	25	17.4
Yes some of the barriers	71	49.3
No	48	33.3
Total	144	100.0
Quality improvement project contribute the improvement of work at your Health facility		
Yes	110	76.4
No	34	23.6
Total	144	100.0

Source: Owen survey, 2018

Accordingly, most frequently mentioned critical successes factors for continuous quality improvement project implementation by responds were; Team work (64.4%), resource (63.9%) took the lion share, as showed in the figure 3 below

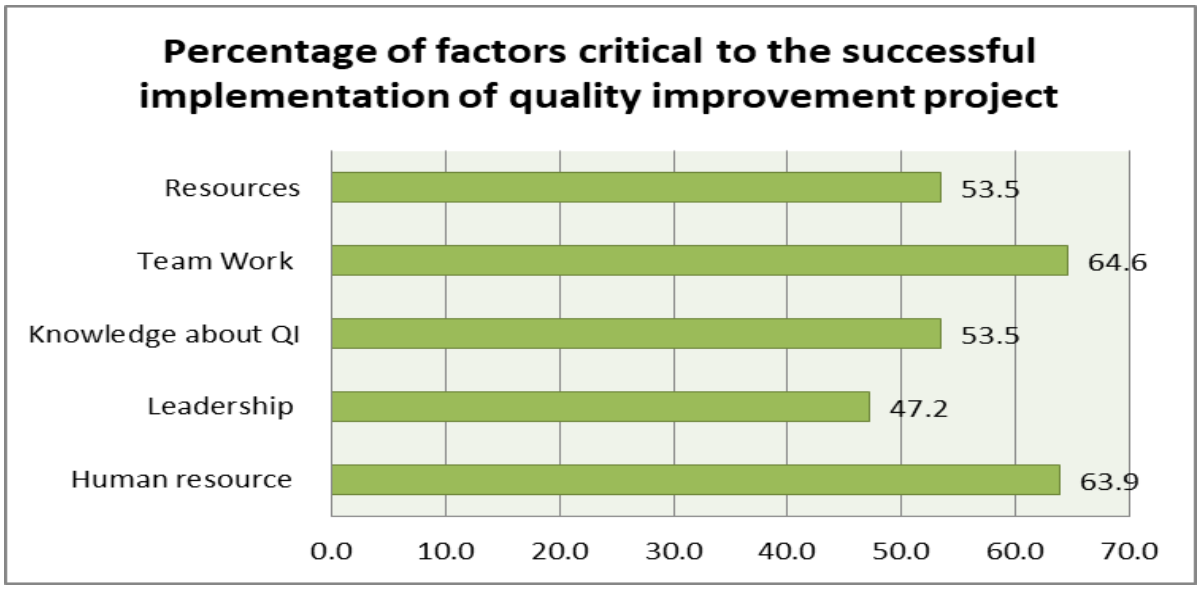

Figure 3 Percentage of factors critical to the successful implementation of quality improvement project at Health facilities of SNNPR, Ethiopia, 2018

4.10 Determinants of continuous quality improvement project implementation

In order to determine the association of independent variables with continuous quality improvement project implementation both bivariate and multi variate analysis were used. Variables that showed association with the outcome variables in the bivariate analysis were selected for multivariate analysis. Variables like leaders receptive to new ideas, leaders share information/ data about health facility service delivery status, health facility has a quality improvement project plan, Staff know using indicators to tell progress about service delivery, health facility assess client satisfaction level, health staff are recognized for their work, health staffs satisfied with their work, Quality improvement project contribute the improvement of work at your Health facility and leadership encourages learning were the independent predictors of CQI project implementation as showed in the table 8 below .

Table 8: Factor associated with continuous quality improvement project implementation in the health facilities of SNNPR, Ethiopia, 2018

Variables	CQI implemented		COR (95% C.I.)	AOR (95% C.I.)
	Implemented	Note implemented		
leaders receptive to new ideas				
No	10(20%)	64(68.1%)	0.156 (0.034-0.727)*	0.572 (0.097-3.37)
Yes	36(72%)	26(27.7%)	1.385 (0.317-6.051)	4.535 (0.765 - 26.895)
I don't know	4 (8%)	4(4.3%)	1	1
leaders share information/ data about health facility service delivery status				
No	9(18%)	38(40.4%)	0.323 (0.141 - 0.742)*	0.976 (0.171 - 5.57)
Yes	41(82%)	56(59.6%)	1	1
health facility has a quality improvement project plan				
No	5(10%)	27(28.7%)	0.276 (0.099 - 0.769)*	0.138 (0.029 - 0.652)*
Yes	45(90%)	67(71.3%)	1	1
Staff know using indicators to tell progress about service delivery				
No, they can't	7(14%)	27(28.7%)	1.815 (0.332 - 9.923)	2.3 (0.19 - 27.905)
Yes, they able to report calculate indicators	22(44%)	20(21.3)	7.7 (1.554 -38.16)*	5.627 (0.481 - 65.888)
Yes, they able to report progress figure	19(38%)	33(35.1%)	4.03 (0.826 - 19.674)	5.274 (0.47 - 59.156)
I don't know	2(4%)	14(14.9%)	1	1
health facility assess client satisfaction level				
No	3(6%)	25(26.6%)	0.137 (0.037 - 0.503)*	0.101 (0.019 - 0.522)*
Yes regularly	19(38%)	37(39.4%)	0.587 (0.277 - 1.243)	0.19 (0.06 - 0.6)*
Yes but not regular	28(56%)	32(34%)	1	1
health staff are recognized for their work				

No	11(22%)	45(47.9%)	0.307 (0.141 - 0.671)*	0.233 (0.076 - 0.721)*
Yes	39(78%)	49(52.1%)	1	1
health staffs satisfied with their work				
Not satisfied	22(44%)	58(61.7%)	1.043 (0.3 -3.623)	3.308 (0.535 - 20.448)
Yes, Satisfied			2.64 (0.738 -9.439)	6.349 (0.993 - 40.588)*
I don't know	4(8%)	11(11.7%)	1	1
Quality improvement project contribute the improvement of work at your Health facility				
No	5(10%)	29(30.9)	0.249 (0.09 - 0.692)*	0.181 (0.047 - 0.696)*
Yes	45(90%)	65(69.1%)	1	1
leadership encourages learning				
No	27(54%)	73(77.7%)	0.338 (0.161 - 0.706)*	2.148 (0.664 - 6.948)
Yes	23(46%)	21(22.3%)	1	1

- Significantly associated with P- Value of <0.05. Source: Owen survey, 2018

According to the multivirate logistic regression analysis if the health facility has strategic quality improvement project plan, 84% of the health facility will implement continuous quality improvement project (AOR=0.138 (0.029 -0.652)). Similarly, if the health facility assess client satisfaction, even if the assessment is not regular, 90% (AOR=0.101 (0.019 - 0.522)) of the health facility will implement continuous quality improvement project as compered to health facilities couldn't able to assess the satisfaction level of clients. Moreover, if the health facilities staff believe that Quality improvement project contribute the improvement of work at their respective Health facility, 80% (AOR=0.181 (0.047 - 0.696)) of the health facilities more likely implement continuous quality improvement project as compered to those health facilities with staff not believe CQI project has contribution for their work.

CHAPTER FOUR

DISCUSSION

In this study the factors associated with continuous quality improvement project implementation studied. The factors are categorized in to seven thematic area leadership, planning, customer, human resource, process management, measurement and analysis and result. From the findings 35 % of the respondent mentioned their respective health facilities implemented continuous quality improvement project, which is low achievement compered to study conducted Sirlanka(43%)(Somatunga L C,et al, 2015)

In this study the logistic regression identified factor associated with continuous quality improvement project implementation. Availability of receptive leader for new ideal 1.4 times more likely health facilities implemented continuous quality improvement project (AOR 1.385 (0.317-6.051)) and only 72 % of the leaders were receptive for new idea. This finding low as compared to Sirilanka study which is 100% (Chen et al, 2015). this discrepancy might be due to the setting and assessment tool differences

Although the majority (77 .8%) of responding indicated that health facility has a quality improvement project plan. Similarly, among health facility has a quality improvement project plan in 86% of health facilities CQI project were implemented (AOR 0.138 (0.029 -0.652)).

Many early QI pioneers and researchers argue that measurements are important. Otherwise, how can we know that a change is an improvement if there are no supporting data (Donabedian, 2003; Batalden & Davidoff, 2007)? it is important to have measures to rely on. Measures are considered a driving force for improvements and patients can also make use of the results, in choosing a hospital or primary care center that shows the “best” results. Specifically, participants noted improvements made within their public health practice by the use indicators to measure progress to measure improvement. health facilities with all Health

staff able to use Measurement or indicator accounts only 25% and those facilities with all health staff utilized indicator for progress measurement 6 times more likely implement CQI (AOR 5.627 (0.481 -65.888)) in health facilities.

The questionnaire results showed that the majority of the respondents were not satisfied with their work (54%)and what they had accomplished, significant association showed if the staff satisfied by their work 7 time more likely the health facility implement continuous quality improvement project (AOR 6.349 (0.993 - 40.588)), This finding similar with the study conducted Swedish County (Ann-Christine, 2013)

the improvement idea had contributed to improve the work at the unit, and progress was assessed. The item “How much commitment do you feel toward the improvement idea?” showed a large engagement in the quality improvement initiative. In line with the above idea majority of the respondent believed that CQI will contribute for in work improvement. Moreover, in 82% health facilities which have health staff who believe on CQI contribute for improvement of their work 82% implemented CQI (AOR=0.181 (0.047 -0.696)). The finding also similar with study conducted Swedish County (Ann-Christine, 2013)

An important question about initiating improvement (and all sorts of change) is about how to guide, encourage and motivate health staff. Nelson et al. (2007) emphasize the culture or climate at the unit, and the importance of staff members being proud to work at their working site. The result in this thesis indicates that few participants (30.6%) said leadership encourages learning for advancement in their respective health facility which brings a protective odd ratio of three times more likely the CQI will not implemented if leaders encourage learning (AOR=2.148 (0.664 -6.948)). This result discordant with s finding from Nageria. (Ugo et al, 2016) .

Over all, staff training on QI, team work and leadership engagement couldn't show significant association with continuous quality improvement project implementation even if it was mentioned by different scholars as an important determinant factor (Luís Mendes, 2014, Ugo et al, 2016),

CHAPTER FOUR

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Based on the finding from this study the following points conclude about continuous quality improvement project implementation factors:

Implementing quality improvement project is a pillar for improving client satisfaction but in SNNPR small number of health facilities have project to improve service delivery. The implementation of continuous quality improvement project associated with factors like leadership receptiveness, leadership encouragement for learning, leaders share information/ data about health facility service delivery status, health facility has a quality improvement project plan, Staff know using indicators to tell progress about service delivery, health facility assess client satisfaction level, health staff are recognized for their work, health staffs satisfied with their work, Quality improvement project contribute the improvement of work at your Health facility and leadership encourages learning.

6.2 Recommendation

- ✓ Health facilities in the SNNPR shall be working on three dimension of continuous quality improvement project implementation: leadership, human resource and client perspective for quick achievement in the implementation.

- ✓ Strategic quality improvement plan shall be developed by each respective health facilities in the SNNPR in order to implement CQI project effectively

- ✓ The satisfaction level of health staff shall be boosted for better implementation of Continuous quality improvement project

- ✓ Client satisfaction survey and client engagement in CQI project shall be done regularly to identify quality problems and to effectively implement appropriate quality improvement project

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Appendix

Appendix I: Questionnaire

Introduction

This questionnaire is prepared to collect the necessary information to identify factors affecting continuous quality improvement projects in the health facilities, for a partial fulfillment of the requirements M.A.. in Project management programme at Addis Ababa University School of commerce. On this questionnaire your name will not be written and your answers will be kept completely confidential. Your honest answers will help me to understand better which factor most important for implementing continuous quality improvement projects and to identify problems related to such a project and finally to bring the possible intervention to the problem. I would greatly appreciate your truthful participation in filling the questionnaire

Part I: Socio Demographic Characteristics of the Respondent			**Remark**
Sr.no	**Questions**	**Response items**	
101	Sex	1. Male 2. Female	
102	Age	_____	
103	Profession	1. Midwife 2. Nurse 3. HO 4. Physician 5. HIT 6. Other Specify _____	
104	Educational level	1. Diploma 2. Degree 3. Post graduate	
105	Working facility	1. Health center 2. Hospital 3. Woreda health office	
106	Does your organization implemented quality improvement projects in the last 6 months?	4. Yes 5. No 6. I don't know	
107	Have you got the opportunity to participate in quality improvement project?	1. Yes 2. No	

Factors affecting implementations of continuous quality improvement project in the health facilities			
Part II: Leadership			
201	In your working area are leaders receptive to new ideas?	1. Yes 2. No 3. I don't know	
202	In your working area does leader's uses values the organization's to guide health facilities activities?	1. Yes 2. No 3. I don't know	
203	In your working area dose leadership creates a safe work environment?	1. Safe work environment created 2. There is initial activities to create safe working environment 3. Safe working environment not created 4. I don't know	
204	In your working area do leadership shares information/ data about health facility service delivery status?	1. Yes 2. No 3. I don't know	
205	In your working area does leadership encourages learning that will help all our employees advance their knowledge?	1. Yes 2. No 3. I don't know	
206	In your working area does leadership asks employees to generate change ideas?	1. Yes 2. No 3. I don't know	
207	Do you think that leaders in your health facility will/ was engaged in quality improvement projects?	1. Yes, already yes, 2. I believe they will engaged in the future 3. I don't think 4. I don't know	
Part III: Planning			
301	Does your health facility have a quality improvement project plan?	1. Yes 2. No 3. I don't know	
302	If yes does your health staff know about quality improvement project plan?	1. The plan shared for all staff 2. The plan not disclosed to staff 3. I don't know	
303	How does your organization solve quality related problems?	1. Assigns individual to solve 2. Set up a multi-disciplinary team for each problem 3. A permanent team is available 4. Other (please specify) _____	
304	Does your health staff know how to tell if they	1. Yes, they able to report	

	are making progress on the service they delivered using indicators?	calculate indicators 2. Yes, they able to report progress figure 3. No, they can't 4. I don't know	
Part IV: Customer			
401	In your health facility did Health professionals understand clients need?	1. Yes 2. No 3. I don't know	
402	In your health facility did Health professionals understand our client's preferences?	1. Yes 2. No 3. I don't know	
403	Does your health facility have client feedback receiving mechanism?	1. Yes and reviewed frequently 2. Yes but not reviewed 3. No 4. I don't know	
404	Does your health facility assess client satisfaction level?	1. Yes regularly 2. Yes but not regular 3. No 4. I don't know	
405	Does your health facility encourage Clients/ community involvement in decision making?	1. Yes regularly 2. Yes but not regular 3. No 4. I don't know	
Part V: Human resource			
501	In your health facility does health staff make changes that will improve their work? .	1. Yes 2. No 3. I don't know	
502	In your health facility does health staff cooperate and work as a team?	1. Yes 2. No 3. I don't know	
503	How would you prefer to work if the quality improvement project was to be implemented again if there was before?	1. As individual 2. As team 3. As both 4. No response	
504	In your health facility does health staff are recognized for their work?	1. Yes 2. No 3. I don't know	
505	In your health facility does health staff have job descriptions, including specific responsibilities?	1. Yes 2. No 3. I don't know	
506	In your health facility does health staff trained on quality improvement?	1. Yes all of the staff 2. Yes some of the staff 3. No 4. I don't know	
507	Does your health facility have designated Quality Improvement focal person?	1. Yes 2. No 3. I don't know	
508	Does your health facility have a quality	1. Yes	

	improvement committee or team?	2. No 3. I don't know	
509	Does your health facility have enough health staff?	1. Yes 2. No 3. I don't know	
510	Does your health facility health staff are aware of external quality improvement expertise for additional support?	1. Yes and utilized QI expertise 2. Yes but not utilized 3. No 4. I don't know	
Part VI: Measurement, Analysis, and Knowledge Management			
601	In your health facility do health staffs know how to measure the quality of their work?	1. Yes all of staffs 2. Yes some of staffs 3. Not at all 4. I don't know	
602	In your health facility do health staffs know how to analyze (review) the quality of their work to see if changes are needed?	1. Yes all of staffs 2. Yes some of staffs 3. Not at all 4. I don't know	
603	In your health facility do health staffs use these analyses for making decisions about their work?	1. Yes all of staffs 2. Yes some of staffs 3. Not at all 4. I don't know	
604	In your health facility do health staffs get all the important information they need to do their work?	1. Yes all of staffs 2. Yes some of staffs 3. Not at all 4. I don't know	
605	In your health facility do health staffs get the information they need to know how the health facility is doing?	1. Yes all of staffs 2. Yes some of staffs 3. Not at all 4. I don't know	
Part VII: Process Management			
701	Does your health facility health staff can get everything they need to do their job?	1. Yes and every thing 2. Yes but not everything 3. No 4. I don't know	
702	Does your health facility health staff aware of QI models?	1. Yes and utilized one or more models 2. Yes but not utilized 3. No 4. I don't know	
703	How easy is it for you to use steps to develop the quality improvement projects?	1. Very easy 2. Moderately easy 3. Quite difficult 4. Very difficult	
Part VIII: Results			
801	In your health facility does health staffs satisfied with their work?	1. Satisfied 2. Not satisfied 3. I don't know	
802	Do you think your health facility uses health	1. Yes	

	staffs time and talents well?	2. I don't think 3. I don't know	
803	Is your health facility removes barrier for quality improvement project implementations in the future?	1. Yes almost all barriers 2. Yes some of the barriers 3. No 4. I don't know	
804	Do you think quality improvement project implementations could contribute to improving the work at your unit?	1. Yes , a lot l 2. Yes Some 3. Not at all 4. I don't know	
805	In your opinion, what are the factors critical to the successful implementation of quality improvement project?(**more than one answer possible**)	1. involvement of the staff 2. Leadership support 3. Knowledge about QI 4. Team work 5. Resources 6. Other Specify_____	

Annex two

Multi-vairet logistic regression final out put

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 5[a]	leadersreceptive								
	No	-2.494	1.096	5.179	1	.023	.083	.010	.707
	Yes	.170	1.048	.026	1	.871	1.186	.152	9.245
	I don't know	1.000					1.000		
	leadersengagedQI(1)	-1.115	.554	4.055	1	.044	.328	.111	.971
	health facility has a quality improvement project plan								
	No	-1.720	.922	3.474	1	.062	.179	.029	1.093
	Yes	1.000					1.000		
	solveproblems			7.628	2	.022			
	solveproblems(1)	-2.838	1.055	7.234	1	.007	.059	.007	.463
	solveproblems(2)	-1.553	1.007	2.379	1	.123	.212	.029	1.523
	health facility assess client satisfaction level								
	No	-.553	1.087	.259	1	.611	.575	.068	4.844
	Yes regularly	-2.095	.950	4.863	1	.027	.123	.019	.792
	Yes but not regular	1.000					1.000		
	health staffs satisfied with their work			5.948					
	Not satisfied	-2.237	.978	5.233	1	.022	.107	.016	.726
	Yes, Satisfied	-1.234	.945	1.703	1	.192	.291	.046	1.858
	I don't know	1.000				1.000			
	Quality improvement project contribute the improvement of work at your Health facility								
	No	-1.610	.793	4.122	1	.042	.200	.042	.946
	Yes	1.000					1.000		
	Constant	9.359	2.439	14.721	1	.000	11598.307		

a. Variable(s) entered on step 1: leadersreceptive, sharesinformation, encouragelearning, leadersengagedQI, Qiplan, solveproblems,

Advisor Approval

This thesis has been submitted for examination with my approval as university advisor.

Advisor_____

Signature: _____

Date: _____