Assessment of Service Delivery System and Customer Satisfaction at Rural Health Centers: The Case of Two Health Centers in Wuchale Woreda, Oromia Regional State of Ethiopia

A Thesis Submitted to Addis Ababa University College of Business and Economics, Department of Public Administration and Development Management in Partial Fulfillment of the Requirements for the Degree of Masters in Public Management and Policy Specialized in Development Management

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October 2019

Addis Ababa, Ethiopia

ADDIS ABABA UNIVERISTY

COLLEGE OF BUSINESS AND EONOMICS

DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

MASTERS OF PUBLIC MANAGEMENT AND POLICY

DEVELOPMENT MANAGEMENT STREAM

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By

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Approved By Examining Board:

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Chairman of the _____ **Signature** _____ **Date** _____

Department

DECLARATION

I, Zewdie Asfaw Kebede affirm that the thesis entitled: Assessment of service delivery system and customer satisfaction at rural health centers: The case of two health centers in Wuchale woreda is my original work, studied under the guidance of Filmon Hadaro (PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm the thesis has not been submitted to any other higher learning institution for the purpose of earning any degree.

_____

Signature and date

DEDICATION

This piece of work is dedicated to my family for their selfless support, constant encouragement, advice and inspiration toward in pursuit of my academic ambitions.

Acknowledgment

Above all, my deepest glory could be heard to the Almighty God for His presence with me in all day to day performances and giving me strength and protection to complete my study.

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Table of Contents

List of Tables

List of Figures & Maps

Acronyms

AIDS Acquired Immunno Deficiency Syndrome

ANC Antenatal care

ART Anti retroviral Therapy

CSA Central Statistical Agency

EDHS Ethiopia Demographic Health Survey

EPHI Ethiopia Public Health Institute

FMoH Federal Ministry of Health

HC Health center

HCT HIV Counseling and Testing

HEP Health Extension Program

HIV Human Immunno Virus

HNP Health and Nutrition Program

HSDP Health Sector Development Program

ICT Information Communication Technology

IMCI Integrated management of child illness

MCH Maternal and Child Health

MDG Millennium Development Goal

MDR Multi-drug resistance

ODA Official Development Assistant

OECD Organization for Economic Cooperation and Development

PHC Primary Health Care

PHCU Primary Health Care Unit

PMCT Prevention of Mother to Child Transmission

SERVQUAL Service Quality

SPSS Statistical Package for Social Science

STIs Sexual Transmitted Infections

UNICEF United Nations Children's Fund

USAID United States Aid for International Development

VCT Volunteer Counseling and Testing

Abstract

Health service delivery system is not well organized at rural health centers as urban health facilities and hence curative and preventive health service provision is not adequate, accessible, and consistent as urban health facilities. At studied rural health centers the service units are inadequate in number and inappropriate for quality health service deliveries. Health resources allocation is insuffcient. Infrastructures, internal facilities and technology supported services especially computer supported services at each service unit is poor. Hence, this study was aimed to assess the service delivery systems and associated customer satisfaction at two rural health centers in Wuchale woreda. It is to assess the health service delivery system mechanisms, status and associated customer satisfaction at outpatient, maternal and child health services so that to identify the current practices and challenges in implementing health policies. *The researcher insisted on deep study to identify the major factors affecting level of customer satisfaction regarding curative and preventive components of health service deliveries at rural settings. Mixed methods of research methodology was used to address the research questions. Primary data was collected through structured and semi-structured questionnaires. In addition to customer focused questionnaires, 11 key informant interviews and 5 focus group discussions were conducted for different categories of respondents which was in structured and unstructured forms in order to enhance the depth of the study. Secondary data from different offices and web-sites was also used for the study. The data collected from multiple sources was analyzed using both quantitative and qualitative analysis methods. As studied health centers standards were below the minimum service delivery standards of health centers, and this combined with shortage of resource allocations significantly affected quality health services; and to ensure accessibility, continuity and equity for clients found at different socio-economic status and locations. As a result service provisions remained at substandard in providing quality health services as customer expectations. The overall level of customers' satisfaction at all departments of two health centers was recorded below 52%.* Shortage of skilled human resources, medical, supplies especially drugs, contraceptives, vaccines, laboratory services, lack and inappropriate service units, facilities, inadequate technical abilities and competences are among factors that hinders quality health service provisions. Level of customer satisfaction is also largely linked with accountability and responsibility of supportive staff to help clients around card room and health workers to provide responsive, regular, consistent, quality and on time health services. Friendliness and respectful communication, compassions, consultations, immediate and feasible referral system viz. transportation, price of drugs, service providers willingness and helpfulness, able to offer receipt immediately for what clients paid for also has affected customer satisfaction from health services. *Based on the findings, the researcher recommends rural primary health center decentralization to all kebeles with sufficient health resources allocation. This plays a significant role to ensure health service quality, accessibility and equity for people who located remotely from existing health centers with inappropriate road systems at rural settings. It is also needed rural health centers relentless effort for quality health service delivery system improvements and health center service provision capacity building activities with local government to ensure implementation of national health policy based on strategic programmes.It needs creating strong and nearest linkage between local health workers and communities.*

Key words: *health service quality, customer satisfaction*

Chapter One: Introduction

1.1. Background of the Study

Health systems are defined as comprising all the organizations, institutions and resources that are devoted to producing health actions. In health service delivery system of Ethiopia, a significant inequality in under-five mortality was observed between urban and rural areas among regions related to educational status of mothers and wealth. Childhood mortality was higher in rural areas than in urban areas with under-five mortality of 114 and 83 among 1,000 live births respectively (FMoH, 2015). In country there are significant challenges in meeting the health care needs of the population where there is a moderate to heavy disease burden. As one physician serves about 37,000 people (USAID, 2012), which is significantly below Sub-Saharan standard and nearly 70% of health care is out of pocket (USAID, 2013), ensuring equity and accessibility in health services will remain the biggest challenge for the public health sector.

The national health policy emphasizes core principles of health care system, focusing on preventive, promotive and curative components of health services to meet equitable and quality components of health care for all parts of the population (FMoH, 2015). Despite this at rural localities in which this study was carried out many of health services has been at low level and of poor quality. This is mainly because inadequate number and inappropriate service units, supplies, internal facilities, infrastructures and more generally due to shortage of adequate health resources allocation.

The ministry of health in Ethiopia has advocated the provision of service delivery should address existing gender, geographic, economic and socio demographic inequalities (FMoH, 2015). Despite health equity, accessibility and improvements for all people of the country reported by federal ministry of health in Ethiopia; as (Nayeri et al cited in Samson et al., 2015) stated that in Ethiopia the low level of socio-economic development resulting in low level of economic development, poor environmental conditions and low level of social services has been the major cause of poor health status of the people. The major affected and less privileged populations are living in rural areas. A study done by (Mulatu et al., 2017) in West Amahara region-Ethiopia also showed that the health center and hospital services had weak health care management systems due to poor health care service coverage with insufficient staffing, lack of supplies, inadequate system in infection prevention. This indicates that the health care system suffers from serious deficiency in quality,

efficiency and accessibility. And these problems put significant impacts on quality health service provisions and level of customer satisfaction.

Customer satisfaction is about relationships between the customer, product or service as well as the provider of a product or service. Customer satisfaction is a highly personal assessment that is greatly influenced by individual expectations (Girum, et al., 2018). In recent years, there has been increasing emphasis on assessing quality in health care in both developing and developed countries as many health services do not meet minimum standards for clinical effectiveness or client satisfaction (Samson et al., 2015.) Client power and health system responsiveness are largely a function of the ability of patients to make their wishes heard. It is assessed through patient/ client satisfaction survey. Client satisfaction is the level of satisfaction that clients experience having used a service. It therefore reflects the gap between the expected and the experience of the service from the client's point of view (Margaret et al cited in Samson et al., 2015).

Measurement of patient satisfaction plays an important role in the growing push toward accountability among health service providers (Tirist et al., 2015). Studies on patient satisfaction have a significant role in developing and delivering high quality health care in the rural health centers where health demand and supply disparities are largely existed.

At studied health centers health service related customer satisfaction is largely linked with multidimensional elements such as accountability and responsibility of supportive staff to help clients around card room and health workers to provide responsive, regular and consistent quality health services. Unavailability of ordered drugs, laboratory services with reagents, required contraceptives and vaccines, long waiting time because of non-standardized card room services and unable to get their original card and enforced to repeated paying for the card are among the factors affecting client satisfaction from health services. Good relationships, friendliness and respectful communication; consultations in service provision process, tangibles such as immediate and feasible referral system viz. transportation; absence of appropriate and cold protective waiting room after delivery, lack of light and pure water also affects customer satisfaction. Reliability related factors like price of drugs, able to get receipt immediately for what they paid; and service provider willingness and helpfulness which is related to responsiveness affects customer satisfaction from health care and services. Therefore this study aimed at assessing and analyzing health service delivery system and associated level of customer satisfaction and factors affecting it at two rural health centers in Wuchale Woreda, Oromia Regional state of Ethiopia focusing on outpatient, maternal and child health service utilizers with empirical evidences.

1.2. Statement of the Problem

The health care service industry historically has paid limited attention to customer perspective (Howard, 2000). The main challenge is to create health systems which fairly improve health outcomes, satisfy clients' expectations and to render the services at fair price (Blazevska et al., 2004). Health care systems in most developing countries suffer from serious deficiencies in financing, efficiency, equity and quality; poorly prepared to meet these challenges (Fekadu and Yohannes, 2011).

In Ethiopia, health services are inadequate and of poor quality and the country has extremely poor health status relative to other low income countries (Habtamu and Abebe, 2016). According to WHO (2010) limited availability of health resources, overreliance on direct payments at the time of people need care and inefficient and inequitable use of resources identified as the main interrelated problems that limit universal health coverage.

Client satisfaction rate is generally believed to be low due to different reasons such as limited skilled manpower, infrastructure and other basic health resources. The factors that affect the service satisfaction level among customers of health service utilizers are not well assessed taking into account all five integral components of service quality models including tangibles, reliability, responsiveness, assurance and empathy. They tend to take parts of these service quality measurements to measure customer level of satisfaction. In most cases studies focused on health service providers circumstances. In addition, when these previous researches are well reviewed they focused on urban hospitals. But, there are high disparities between accessibilities, quality of health service delivery between the urban and rural areas (World Bank, 2005).

Anteneh et al (2014) conducted a research on patient satisfaction with outpatient health services in Hawwasa university teaching hospital, southern Ethiopia using a cross-sectionlal study. The study deployed interview administered questionnaires to assess the level of outpatient satisfaction with health care and health services at outpatient department.

Habtamu and Abebe (2016) conducted a research of predictors of patient satisfaction with the health care services provided in Oromia regional state on public hospitals. The study was a cross-sectional study on six selected hospitals in Oromia using semi-structured questionnaires to determine level of outpatient satisfaction with outpatients' health services.

Hailu (2015) conducted a research on determinants of patient satisfaction, the case of Assosa hospital, Benishangul-gumuz regional state of Ethiopia applying descriptive type of research. The study was carried out to assess determinants of patient satisfaction at outpatient department.

A study conducted by Worku et al (2018) on clients' satisfaction with health care providers' communication and associated factors among pregnant women attending antenatal care in Jimma town Public health facilities using cross-sectional study design with mixed data collection methods. The study was mainly to determine level of clients' satisfaction from health care providers' communication.

Tirist et al (2015) undertaken a research on perceived patient satisfaction with inpatient services at Jimma university specialized hospital, south west Ethiopia using structured questionnaires. The study was to assess level of inpatients' satisfaction with the hospital services.

Based on the above reviewed study and other variety of client satisfaction studies in Ethiopia, the majority of the study focused on urban hospitals and health centers. These studies and others conducted in Ethiopia also failure to assess internal facilities, shortage and challenges of basic health resources, absence or inappropriate service units and minimum service delivery standards of hospitals or health centers which has significant contribution for quality health services and associated customer satisfaction.

Therefore, in response to the above research problems and so far studied and indicated research gaps, this study is conducted to assess service delivery system and customer satisfaction at rural health centers in Wuchale woreda as a case study.

1.3. Research Questions

This research questions intended to answer the following basic four questions:

1, what are the level of customers satisfaction of outpatients, maternal and child health services?

2, What are the main factors that affect level of customers satisfaction of outpatients, maternal and child health services?

3, What are the gaps and shortage of health resources exist at rural health centers to deliver quality health services?

4, What are major extension packages underperformances at rural health centers?

1.4. Research Objectives

1.4.1 General Objective

The general objective of this study was to assess the health service delivery system and associated customer satisfaction at outpatient, maternal and child health services at two rural health centers in Wuchale woreda.

1.4.2 Specific Objectives:

The specific objective of this study was:

1, To describe the ways of national health policy implementations at rural health centers

2, To examine relationship between quality health services and customer satisfaction

3, To assess minimum service standards of health centers at rural settings

4, To assess trends of curative and preventive health service provisions at study rural health centers

5, To assess governance and regulation of Wuchale woreda health sector

6, To assess and provide specific service delivery status at rural health centers

1.5. Scope of the Study

Wuchale woreda has one primary hospital, one urban health center, four rural health centers and twenty seven health posts which render different health services for the woreda people. Despite public and private health facilities exist in the woreda to provide health services; this study would be delimited to assess the service delivery system and customer satisfaction at rural health centers taking two health centers in rural areas as a case. The two health centers was Kara health center and Gumbichu health center taking a one year customer respondents of 301 and 294 respectively who were living in kebeles of health centers catchments and obtained services from the two health centers for one year period.

This study did not take under consideration those remaining public health centers, primary hospital and health posts in the woreda under catchment of other health centers and also urban private clinics. The scope of study generally restricted to assess the service delivery system; and associated customer satisfaction at Kara health center and Gumbichu health center from eligible customer

respondents, health center heads, supportive supervisors, health extension workers, kebele managers and researcher observational view points.

1.6. Significance and/or Implications of the Study

Various researchers have been conducted their researches with regard to service delivery and customer satisfaction in hospitals and a few health centers at different urban levels; for example, Tirist et al (2015) undertaken a research on perceived patient satisfaction with inpatient services at Jimma university specialized hospital, south west Ethiopia using structured questionnaires. However, almost no researches carried out at rural health centers regarding service delivery system and customer satisfaction taking outpatients, maternal and child health services utilizers altogether with empirical evidences .

As most maternal and child health services, curative health services for both outpatients and inpatients and environmental sanitation has been inadequate and at substandard. Most of infectious diseases and intestinal parasites usually has been treated at health centers are easily preventable diseases through using standardized latrine, proper environmental sanitation and personal hygiene through implementation of basic health extension packages. The output of this research, therefore, can fill the knowledge gap and improve perspectives of local and regional governments proper health policy implementation for future rural health service improvements and thereby contributing to satisfy the ultimate users of the health services. Second, the research findings can assist these bodies and other private health care organizations to deliver appropriate service to their clients by identifying factors that strongly affect customer satisfaction. Third, it helps health policy makers to observe the challenges and problems and major gaps in health service delivery system at primary health care unit level and motivate to conduct further health service system research and so that to solve health service problems. Fourth, the output of the study also can benefit other non-governmental organizations (NGOs) and public organizations who want to engage to reconsider the contents of health sector policy and practical implementation, health sector service delivery system and customer satisfaction at rural health centers. Fifth, it also helps to understand the existence of main health service related problems in the study area as a result of policy implementation gaps by local government as a result of inadequate resource allocations. Furthermore, the study helps for academic works as a reference and guidance; and for those others interested in research of health service delivery system and customer satisfaction at rural health centers in other parts of the country.

1.7. Limitations of the Study

Some of the limitations encountered the researcher during the study was: First, there was a problem when listing down and recording customers full name at cad room; it was unreadable in many cases as it has written by many persons hands and non-computer supported. Second, some difficulties encountered in getting customer respondents at their home. The third limitation of the study was getting willingness and full commitment of data collectors and research assistants to cooperate, work and assist the researcher within the required time. The fourth limitations encountered the researcher was reluctance of health center heads for interview questionnaires in some cases despite the researcher has been one members of the staff at Gumbichu health center and well familiar with problems of rural health centers regarding service delivery system and complaints of clients.

1.8. Definition of Operational Terms

In order to avoid misunderstanding and individual interpretation and usage of certain concepts in this study, the researcher defined those concepts used in this study; based on the contexts within the study below.

Assessment: is the process by which the characteristics and needs of clients, groups, and situations are evaluated or determined to address the actual needs or desires, expectations and situations.

Customer satisfaction: is defined as the number of customers or percentage of total customers, whose reported experience with a health center, its products or its services. It is highly personal assessment that is greatly affected by customer expectations.

Dissatisfaction: unpleased feelings about the services or product as mismatching with expectations or desires

Health care: the functional and non technical aspect of health service delivery which emphasis on the human aspects of interactions between service provider and the customers

Neutral: those customers who are neither satisfied nor dissatisfied but falls between two as medium; not interested to say much more than does not matter or medium.

Patient: is any person who has visited the health facilities for the sake of health care services. The term used interchangeably with client and customer in this study.

Patient waiting time: it refers to the actual time the customer wait to get personnel who provides services at a service unit

Product or service: referred to the product or service that the customers interested to get from health center

Providers: those individual health workers and supportive staffs assigned in health centers for particular service provisions

Satisfaction: pleased experience of a customer after using the services or products because of attaining match services with expectations or desires

Sign: a board with drawings of big letters and numbers to indicate each service unit by unique number and stands at entrance of a customer to the health center

Very dissatisfied: High failure of the product or service below one's expectations

Very satisfied: Exceeding of the product or service above one's expectations

1.9. Organization of the Paper

This research paper was organized into five chapters. The first chapter consists the introductory part of the paper (background, statement of the problem, research questions, objectives, significance of the study, scope of the study, and limitations of the study). The second chapter presents different theoretical literatures on service delivery system and customer satisfaction issues and health sector service delivery, customer satisfaction and standards of measurement; and also comprises conceptual frameworks as well as empirical studies. It also presents policy and policy implementation, and roles and gaps of local government in implementing national health policy.

The third chapter deals with the research settings and methodology. The fourth chapter comprises overview of Wuchale woreda health sector management system. It also provided presentation, interpretation and analysis of data as well as specific health service delivery situational analysis in health centers using personal observations and perspectives obtaining from group discussions, health centers interview questionnaires as it is required; while the last chapter presents summary of major findings, conclusion and recommendations.

Chapter Two:Review of Literature

2.1. Theoretical Literature Review

2.1.1 Service Delivery and Customer Satisfaction

2.1.1.1 Service Delivery

Services are defined as the means of delivering intangible economic activities that add value to customers implying interaction between service provider and consumer through a process of transaction (Frauendorf, 2006). Services depend on the type of product and it differs in the various organizations. Services process lead to an outcome resulting in the customer being either satisfied or dissatisfied with the service experience (Mayer et al., 2003), it is paramount importance that service organizations pay attention to designing the system by which service concepts are produced and delivered to customers (Brown et al. , 1994).

Health service delivery has been explained as one of the service deliveries involves the client. A bad service delivery harms the client and to some extent could even lead to the loss of life (Bara A.C. et al., 2002). Inadequate service delivery may also reduce the image of the health facility and leading to reduced clients flow towards health facilities for continuity of care and ultimately customers prefer to get services from other public health facilities or private health facilities. As a result checking and assessing customer satisfaction from health services is an essential effort to improve the quality of health system, service quality, health policy and internal health organizations' structures and resource allocations and health service management.

2.1.1.2 Service Quality

The other important concept in service delivery system is service quality which can be defined as superiority or excellence (Zeithaml, 1988). Quality service is defined as the situation in which the consumer's perception of service performance meets or exceeds their expectation of what the service firm should do. The key to service quality then is to meet or exceed consumer expectations (Girum et al., 2018). The concept of quality in organizations has been around for many years and is poised to continue to develop in meaning. After the 1980s, Total Quality Management (TQM) only increased in popularity and became practiced in a number of western firms in the late 20^{th} century. Total Quality Management refers to the broad set of management and control processes designed to

focus an entire organization and all of its employees on providing products or services that do the best possible job of satisfying the customer (Talha, 2004). Therefore, TQM can be described as customer focused management and has shown to improve performance of a number of resources and divisions within organizations (Powell, 1995). Due to this continuous evolution of the concept of quality, there is much debate regarding the definition of and how to quantify it in terms of services. The most important characteristics of services are invisible, consistent and diverse these are more helpful to understand service quality (Parasuraman et al., 1988).

Quality of manufacturing organizations is often based on different criteria than that of service organizations; and the tangible products producing in manufacturing firms are easier to measure than in service organizations where the product can very seldom be seen or touched (Aimee, 2014). In most services, quality occurs during service delivery, usually when customer and service employee interacts (Lehtinen, J. 1982). Research reveals that delivering high service quality produces measurable benefits in profit, cost savings and market share. Therefore, an understanding of the nature of service quality and how it is achieved in organizations has become a priority for research (Zeithaml, 1988).

The majority of service quality research studies refer to Parasurman et al (1994) definition where theoretical quality is the gap between patient's expectation and perception of services rendered along the quality dimensions. Expectations are viewed as the standards patient applies to the service experience, while perceptions are the subjective analysis of the actual experience. Decreasing this gap is imperative for health care facilities to ensure satisfied patients. Patient perception of service quality will influence patient choice of health care provider. Perceived service quality has been suggested to be an attitude which is closely related but not equal to satisfaction (Aimee, 2014).

Service quality definitions can be summed as the art of doing the right thing at the right time, in the right way, for the right person and having the best possible result (Zineldin, 2006). Quality dimensions in health services or diversity arises when examining the meaning of health service. Health service quality consists of a mixture of hard technical elements such as correct diagnosis, appropriate intervention and effective treatment as well as soft element such as good communication, patient's satisfaction and consideration for the patients' preferences (Gill & White, 2009). It is therefore not sufficient to consider only the technical competence of those providing services, but also service provided more effectively, efficiently and humanely.

In a service industry like health care experience of the patient plays a crucial role in rating and assessment of quality of services. Quality in health care may comprise of newer technology, newer

and effective medication, and higher staff of patient ratios, affordability, efficiency and effectiveness of service delivery (Tam, 2004). To client, quality health service is one which meets their needs and delivered courteously and on time (Brown et al, 1990). Client wants services that effectively relieve symptoms and prevent illness. This is because satisfied clients are more likely to comply with treatment and to continue to use health services.

The dimensions of quality that relates to clients satisfaction also affect the health and well-being of the community. Hence, patients and communities often focus on effectiveness, accessibility, interpersonal relations, continuity and amenities as the most important dimensions of quality (Fekadu& Yohannes, 2011). From the provider's perspective, quality service implies that he/she has the skills, resources and conditions necessary to improve the health status of the patients and community according to current technical standards and available resources. The provider's commitment and motivation depends on the ability to carry out the duties in an ideal or optimal way. Providers tend to focus on the technical competence, effectiveness and safety.

Quality health service also requires that managers are rarely involved in delivering patient care although the quality of patients care is central to everything they do. The varied demands of supervision, financial and logistics management present many unexpected challenges. Focusing on the various dimensions of quality can help to administrative priorities. Health service managers must provide for the needs and demands of both providers and patients to be responsible stewards of the resources entrusted to them by the government, private entities and the community (Ofosu, 2012).

The interferences made by the researchers have led to the widely accepted concept that service quality factors are broadly covered by categories of structure, process, and outcome for evaluating of health care (Donabedian, 1980). Structures refers to the attributes of organizations delivering care and related to health system under which care is provided. It includes physical resources and human resources. Process related to the professional activities associated with providing care, the interactions between users and health care providers, the actual delivery and receipt of care; and outcome denotes the effects or the consequences of care. Structure is organizational factors that define the health system under which care is provided. It includes physical resources and human resources who are adequate in number, appropriately trained, motivated, under-sight and supervised care providers. Process is the interactions between service users and health care providers; and outcome is the consequences or effects of care (Zeritu et al., 2017).

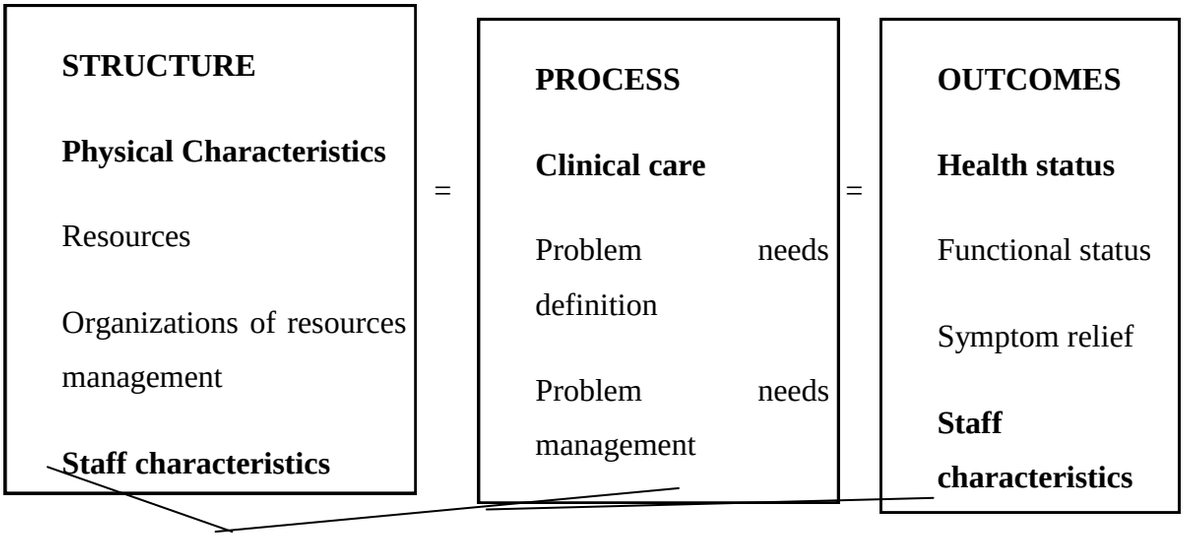


FIGURE 1: SYSTEMS BASED MODEL FOR ASSESSING CAR & CUSTOMER SATISFACTION

Source: Campbell et al. (2000, P. 1613 in Aimee Dorothy, 2014). Defining quality of care

2.1.1.3 Measuring Service Quality

Patients in general receive various services of medical care and judge the quality of services delivered to them. The service quality has two dimensions (a) a technical dimension i. e., the core service provided and (b) a process or functional dimension i. e, how the service is provided (Gronroos, 1984). Parasuraman et al (1988) suggested a widely used model known as SERVQUAL for evaluating the superiority of the service quality. In the SERVQUAL model, Parasuraman et al identified the gap between the perception and expectation of customers on the basis of five attributes viz. tangibles, reliability, responsiveness, assurance and empathy to measure customer satisfaction surveys in the light of service quality (Parasuraman et al., 1988). These are five elements or terms comprises health service standards; consisting list of constructing statement under each of them. Some of these statements could not be applied in rural health centers contexts since the impact they may have put is less when compared with urban hospitals.

Brady and Cronin (2001) suggested a hierarchical model to measure perceived service quality considering three primary dimensions viz. interaction quality, physical environment quality and outcome quality consist of attitude, behavior and experience; ambient conditions, design and social factors as physical environment quality, waiting time, tangible and values.

2.1.2 Definition and Concepts of Customer Satisfaction

Customer satisfaction is defined as the number of customers or percentage of total customers, whose reported experience with a firm, its products or its services. It is highly personal assessment that is greatly affected by customer expectations. In accordance with Donabedian's model of quality measurement, patient satisfaction is defined as a patient reported outcomes measure which is influenced by structures and process measures of patient experiences (Jenkison et al., 2006). Ware et al (2005) define customer satisfaction as the degree to which the customers desired expectations, goals or preferences are met by the health care service provider.

According to Wensing and Elwyn (2003) customer satisfaction is generally defined as the customers' view of services perceived and the results of the treatment. Ahmed et al (2011) pointed out that patient satisfaction mostly appears to signify attitudes towards care. While Jenkison et al (2002) described patient satisfaction as patients' emotions, feelings and perception of delivered health care services. On the other hand Hasyimay et al (20014) defined patient satisfaction as a point of congruency between patient expectations of best care and their perceptions of actual care received. Still the existence of non-agreement up on definitions of patient satisfaction made it difficult to measure.

Sometimes the term customer and consumer used interchangeably despite they are different thing. A customer can be a consumer, but a consumer may not necessarily a customer. According to Solomon (2009) a customer is a person who does the buying and the consumer is the person who ultimately consumes the product.

2.1.2.1 Measuring Customer Satisfaction

Standards of customer satisfaction means that the level of customer satisfaction which customers express their opinions about for its specific service quality. Each standards of customer satisfaction from the services measured as very satisfied, satisfied, Neutral, dissatisfied, and very dissatisfied. In other words it is related to Likert scale. Measuring customer satisfactions provide a comprehensive insight into to the customer pre and post purchase behavior. Without this approach understanding, improving, and developing better customer services could not be possible. One problem with measuring customers' satisfaction is that there may often be discrepancies between the customer's view points and the provider's understandings of what constitutes quality services (Girum et al., 2018).

In today increased competition among private health service providers each other for high market share; and with public health facilities, dynamic health service environment challenges such as high price of drugs, commodities and medical supplies periodical customer satisfaction measurement and quality improvement is mandatory for public health facilities to protect citizens from extra costs at private health facilities and retain customers to public health services.

2.1.2.2 Customer Satisfaction and Service Quality

Customer satisfaction is the personal feelings, meanings and interpretation about a consumer makes of a product and service following its usage (Solomon, 1996). Customers who are satisfied with a product would convey pleasurable information about the product to others with a view to convincing others to patronize it. At the polar end of such reasoning is the notion that, dissatisfied customer of a product will not only desist from a subsequent patronage of the product but will spread damaging information about the product or services to other users which might discourage its patronage. Customer satisfaction is highly associated with service quality (Parasuraman et al., 1988).

Customers of health services play a variety of roles in health service quality assessment; therefore play a variety of roles in health care quality assessment and monitoring. By expressing their preference, they supply the valuations needed to choose among alternative strategies of care (Donabedian, 1988). They help define the meaning of quality in the technical sense. Moreover, their preferences are the paramount consideration in defining the quality of the interpersonal process and the amenities of care. Customers are also valuable source of information in judging the quality of care and non-technical aspects of treatment. This is because customers can and do through expressing satisfaction or dissatisfaction; pass a judgment about many aspects of the process of care and its outcomes. Customers if properly informed could help to regulate the quality of health services by means of their choices (Ofosu, 2012).

Patient satisfaction with service can be associated on patient perceptions of the following service quality standards or elements of SERVQUAL models (Parasuraman et al., 1988). Customer satisfaction standards of measurement comprises within these five elements of SERVQUAL models. Tangibles: Appearance of physical facilities, personnel and written materials. It is the appearance, availability and convenience of amenities. It is condition of surrounds, including equipment, ability level and skills of existing staff as well as cleanliness of the health facilities.

Reliability: Ability to perform the promised service accurately and dependably. It is a process and existence of quality of care in a health center. Responsiveness is willingness to help a customer and provide prompt service. It is readiness of the staff to help customers in a sense of motivation and commitment at each service provision unit. Responsiveness on the other hand, is an intrinsic goal of national health care system. Client power and health system responsiveness are largely a function of the ability of patients to make their wishes heard (WHO, cited in Waju et al., 2011). Assurance is the ability to convey trust and confidence through courteous knowledgeable behavior (Parasuraman et al., 1994). This includes competence, respect, communication and good interpersonal relationships. This is an important aspect of service quality when the patient feel uncertain in the ability of care provider especially when the client counter life threatening illness.

Empathy as one important part of service quality, is caring individualized attention given to a customer. It is adequate provision of care and ability to show compassion. It is ability to be approachable and being sensitive towards patient health problems to take appropriate interventions. Empathy which is a core component of consultation, it is often seen as crucial to the effective achievement of patient satisfaction in that it encapsulates sensitivity to both the informational and emotional aspects of communication. Service providers who appear fully attentive avoid distractions, show smile and sit on the same level as the patient as all convey an important message of caring and listening to client concerns (Habtamu& Abebe, 2016).

2.1.3 Managing Service Quality and Effectiveness

The key managing service quality of the organization is to deliver high quality service consistently as expected by customer or service users (Kotler, 1998). Even (1997) suggested customers' complaints satisfying system to be done using service discovery program which involves three steps: Make it easy for dissatisfied customers complain by providing suggestions, complaints and others; employees of companies who receive complaints must be trained in order to be able to solve customers' problems firstly and with great satisfactions; and organizations should find the main causes of problems beyond satisfying particular customers.

2.2. Conceptual Framework

Health systems as having six building blocks: service delivery, health workforce, information, medical products, vaccines and technologies; financing, leadership and governance (WHO, 2010). The Ouagadougou Declaration (2008) on primary health care and health systems in Africa focuses

on nine major priority areas namely leadership and governance, human resources for health, health financing, health information systems, health technologies, community ownership and participation, partnerships for health development and research for health service delivery. The health service delivery system comprises three tiers. Specialized hospital and general hospital are at the top level of the system which is centralized from rural people. At the lower or third level health service delivery tier there is primary health care unit comprises one primary hospital, one urban health center; at rural kebeles there is one health center for five kebeles and one health post per kebele. These three levels of health system arrangement is linked each other through referral system. The secondary and third level of health service delivery system as mainly concentrated in big urban and it is usually difficult for majority of poor rural people to get medical services because of affordability, transportation and waiting home related problems till admissions. The unavailability of community based effective health insurance and social based health insurance schemes in studied rural health centers has also exposed rural poor people to high out-of-pocket spending for health care and tends to lead low and restricted health service utilizations.

As attempted to summarize by figure 2, below personal and situational factors can affect service delivery. Service providers, service seekers and SERVQUAL models: Tangibles, reliability, responsiveness, assurance and empathy affects service quality. As indicated in figure below, customer satisfaction is influenced by product quality, prices of goods or services, age, sex, education and wealth quintiles as well as service quality. It also indicated that personal and situational factors affect customer satisfaction. A well level of customer satisfaction leads to customer loyalty which is important for service organizations.

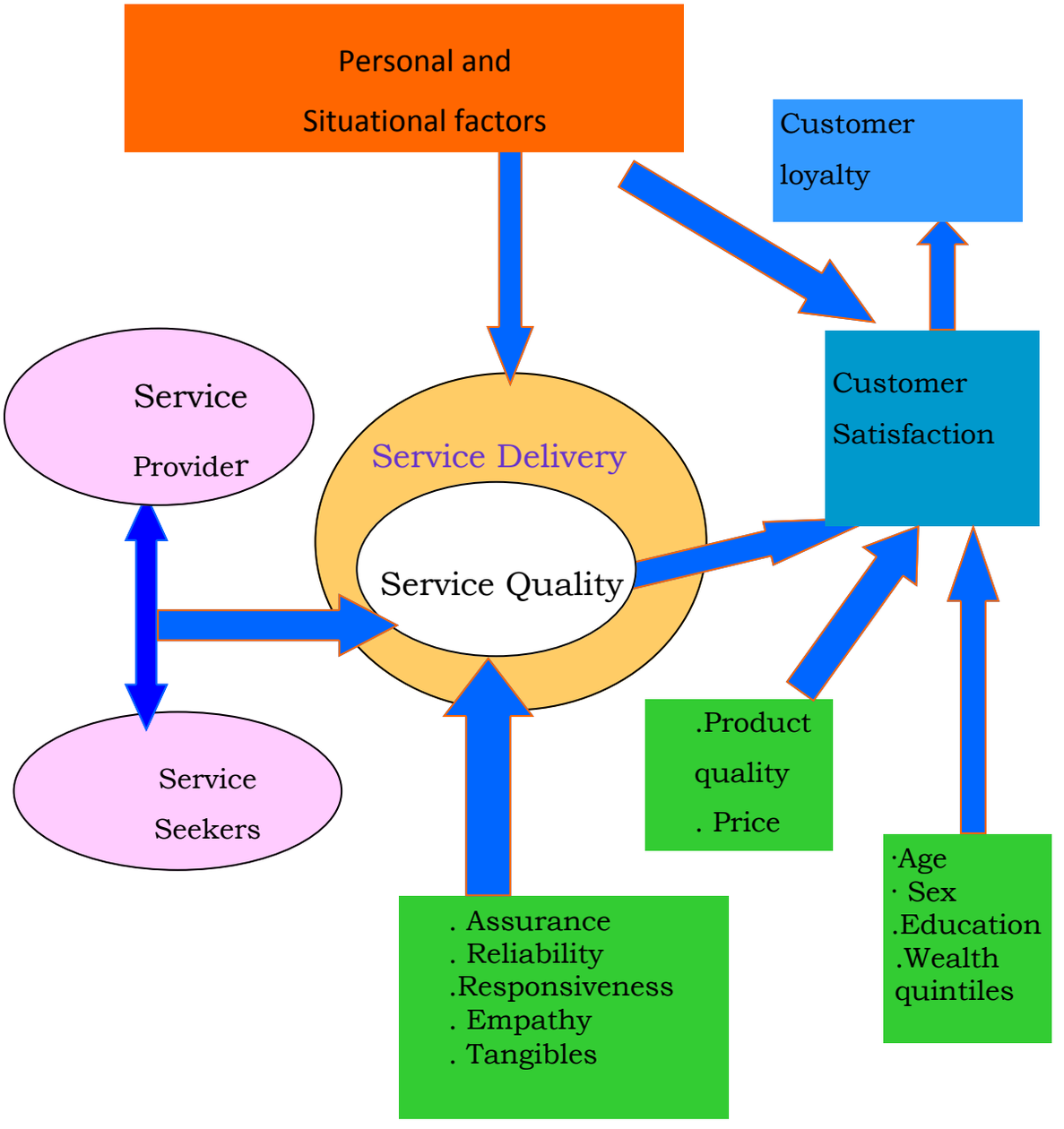


FIGURE 2: CONCEPTUAL FRAMEWORKS FOR CUSTOMER HEALTH SERVICE SATISFACTION
Source: Adapted from own literature review

2.3 Empirical Literature Review

In the previous section the theoretical and conceptual literatures which has relations with the topic under investigation was briefly discussed. In this section the researcher is going to present the empirical literatures which reveal real contribution to the health center service delivery system and

customer satisfaction from different experiences of countries and health facilities. The health system arrangement and administration system is different from country to country even among and within African countries. These elements affect service delivery which directly or indirectly affects customer satisfaction. In Uganda the Health System Assessment (HSA) was carried out to identify strengths and challenges of the Uganda health system, and to make recommendations for interventions to strengthen the system. It has three specific objectives: First it provides a baseline for providing for monitoring health system performance throughout the period of the countries' health sector strategic and investment plan 2010/11-2014/15 (HSSIP). Second, it provides a snapshot, in a single document of the status of Uganda's health system based on data collected from published documents and stakeholder interviews on different aspects of the system. Finally, it identifies the strengths and weaknesses of the system and provides recommendations, which can inform Government of Uganda (GoU) policy makers, development partners, and other stakeholders for further strengthening (MoH, 2011).

Kenya has been implementing important health sector reform measures which can be taken as a good example. The health system of Kenya has two dimensions: The ministry of medical services (MoMS) and the Ministry of public health and sanitation (MoPHS). The MoMS administers secondary and tertiary hospitals (levels 4-6) of the health system. The MoPHS oversees primary health care facilities (level 1-3). The split adversely slowed down the sector partnership arrangement which was steadily gaining momentum. Generally the health system determines and affects service delivery and qualities of service delivery mechanisms which affects customer satisfactions by any means.

Some studies have focused on health care providers skills and have found a relationship with satisfaction. In particular, specific communication barriers including lack of warmth and friendliness on the part of service provider and health workers failure to take into account the patients' concerns and expectations, lack of a clear cut explanation concerning diagnosis and causation of illness and excessive use of medical jargon have been found to decrease satisfaction.

In developed countries, patients are highly satisfied (90-95%) with the basic services provided at outpatient departments (OPD), while in developing countries it has been shown that the range of patients' satisfaction vary between 95% to <50%. Different studies have pointed out that the level of satisfaction in different types of health facilities and hospitals vary. Studies in Ethiopia reported overall satisfaction levels of outpatients at Hawassa University teaching hospital, southern Ethiopia in (2014) showed 80.1%; at Jimma University specialized hospital in (2011) was 77%; overall

satisfaction level of labor and delivery service at University of Gonder teaching hospital (2019) showed 31.3%; a study done on outpatient and inpatient health care services in tertiary institutions north central Nigeria in (2018) showed 67.5%; and a study done at Mawenzi regional referral hospital in Kilimanjaro region, Tanzania overall patient satisfaction was 20%. Studies in Bangladish showed that greatest levels of satisfaction were observed in private hospitals than in training and social security hospitals.

Considering maternal and child health, globally an estimated of 303,000 women died yearly due to pregnancy related complications and child births. Even if, annual number of maternal deaths fell by 44% between 1990 and 2015, from approximately, 385 to 216 deaths per 100,000 live births which is still very high. In developing countries which accounts approximately 99% of global maternal deaths; with sub-Saharan African countries alone accounts 66% of maternal deaths. Maternal mortality is one of serious health problems in Ethiopia according to CSA, Ethiopian demographic and health survey in (2011) and (2016) indicated that MMR was 676 and 412 deaths per 100,000 live births respectively which are strikingly high (Worku et al., 2018). It has been reported that several factors contributed to maternal deaths, one of which being a lack of skilled medical assistance and unattended delivery services that jeopardizes the lives of mothers and a newborn. Maternal satisfaction with health facility care during child birth is one of the many factors that play a role in the utilization of maternal health services (Mesafint et al., 2018).

Studies declared that the magnitude of satisfaction on child birth care varies across countries; a study conducted in Nairobi revealed that the overall satisfaction with child birth care varies across countries; a study conducted in central Ethiopia had shown that about 62.6% of the women reported that they have been satisfied with their visit and the services utilizations. Another study conducted in Amhara region had revealed that the proportions of mothers satisfied with child birth care services was 61.9%. Evidence had indicated that satisfaction affects health service utilization, individuals happy with the care received comply with services and follow up, and continue with the care. Despite women's satisfaction with health care services is influenced by their expectations; a lot of factors affect women's satisfaction during child birth including interpersonal manner of care, birth outcomes, physical environment and availability of medical care resources (Mesafint et al., 2018).

2.3.1 Health Policy in Ethiopia and practical implementation

During the Dergue regime health policy was formulated with emphasis on disease prevention and control. The current health policy in Ethiopia, promulgated by the Transitional Government takes into account broad issues such as population dynamics, food availability, acceptability, living conditions and other essentials of better health (TGE, 1993). To realize the objectives of the health policy, the government framed the twenty years health sector strategy through the Health Sector Development Programmes (HSDP), which is a 20–year health development strategy implemented through a series of four consecutive 5-year investment programmes (FMoH, 2010). The Health Sector Development Programme (HSDP) is a key component of the GTP and its primary objective is to improve the health of the population through the promotion of preventive, curative and rehabilitative health services by improving access, affordable health services and improving quality of health services (EPHI, 2014).The HSDP prioritizes maternal and newborn care, child health; and aims to halt and reverse the spread of major communicable diseases such as HIV/AIDS, TB and Malaria (FMoH, 2013; EPHI, 2018). The core elements of the health policy include: democratization and decentralization of the health care system; development of the preventive and curative components of health care; ensuring accessibility of health care for all segments of the population; and promotion of private sector and NGO participation in the health sector (FMoH, 2013; FMoH, 2015).

Ultimately, the success of PHC in Ethiopia depends not just on policy statements, resource reallocations and expansion of health infrastructure but also on fundamental change in attitudes and values regarding the development of human resources and the equitability of social services. It remains to be seen whether the existing Ethiopian Government can maintain momentum in the continuing decentralization and democratization processes, and create a sociopolitical environment conducive to bottom-up PHC development (WHO, 2017). The Health Extension programme (HEP) is an innovative health service delivery programme that aims at universal coverage of primary health care and serves as the primary vehicle for health promotion, disease prevention, behavioral change communication and basic curative care (FMoH, 2013).

Despite Federal Ministry of health frequently reported health accessibility and improvements in Ethiopia; Aynalem (2014) indicated that the major health problems of the population of Ethiopia remain largely preventable communicable diseases and nutritional problems associated with low economic development. Ethiopia health service system is weak and poor related to infrastructure;

reproductive health is not well developed, regional disparities in access to other health services and outcomes are also widely observed. Inadequate and substandard health coverage is of particular concern in Ethiopia. Vaccination coverage is three times as high in urban areas than rural, almost all births 94% takes place at home, the majority of 61% births are assisted by a relative or some other untrained person, 5% births are delivered without any assistance. As a result one in fourteen women face the risk of death during pregnancy or child birth. Shortage of trained health professionals, inadequate provision of health supplies, absence of a modern health information and administration systems as well as vital statistics are among factors hampering efforts to expand health care services.

As long years observation and view points of the researcher, at studied rural health centers, despite these policy statements the accessibility of health care for all segments of the population of the rural people is remained at substandard because of ineffective decentralization, inadequate resource allocations for local health facilities, poor infrastructures and local government dependency on state and federal government for key health service financing and budgeting. Basic and essential preventive health services or health packages such as standardized latrine construction and using practices, proper waste management practices, regular and continue child immunization services, regular family planning services are in problems at rural health centers and affects health service accessibility, equity, universal coverage, quality and associated customer satisfactions from health services significantly.

Health centers recommend customers to use immunizations and other services from health posts when women visit health centers for the services; health extension workers on the other hand never have presented and lived in health posts or around health posts instead they were mostly used to live in woreda main town. shortage and unavailability of vaccine drugs at health centers and health posts; absence of regular and continues immunization service provision practices by health extension workers or health centers' health workers through outreach immunization programmes identified as main components of rural maternal and child health service problems and complaints of many mothers in the study area. This is one of the key problems of operationalization of health policy and needs further research and adequate interventions.

Health packages such as clean delivery services and selected treatment of pneumonia and diarrhea cases in under five years children is also not under implementation in line with the national health policy at health posts; as health extension workers accountability, responsibility and commitment is weak to provide the services living around health posts. As health extension workers are also

controlled by non-health staff kebele manager from farmer households who showed great reluctance in controlling them. They only required to report regular activities to health center and came to health center for meeting when health center head passes command for them. Unless kebele manager has written up on them for their absence from works to health center they never in debited for their absence from regular public works. The loose management system, controlling procedures, and woreda health workforces supervision and support ineffectiveness for rural health facilities weakens integration and coordination between health posts and health center; and thereby creates performance gaps and problems in health service delivery system and hampered customer satisfaction from rural health facility health services.

Most of customers in rural localities usually have not had sufficient perspective and understanding to measure service quality and tends to be complaint only when they have not got what is expected in their mind from previous view points. To measure process and procedures of services they are inattentive and unknowledgeable, lacks awareness but attentive to measure end results or outcomes. The problems of integration and coordination between health center and health posts; poor financing, human resources and other resource supplies, loose supervision and controlling system as well as non-continuity monitoring and evaluation systems by woreda health offices hinders preventive health services accessibility, equity and quality at rural health centers.

Curative health service delivery at rural health centers also has showed great gaps and problems has existed primarily at card room as the registration process is not supported by technology bear computer and never have been written patients' information data and saved their cards in computer to find it later easily when the customer revisit the health center. Customers are exposed to additional repayment for card though they have registered and obtained cards previously if they lost their previously given mini card. As rural people are forgettable the identity card for health services might have been lost easily, customers are highly dissatisfied when repeatedly paid for card at the studied rural health centers. In some cases there were conditions that customers interrupted health services and went back to their home without services when enforced and asked to bring their lost mini card. Absence of health center proper organizational structures, complete absence of service units in some cases; technical and clinical competence of health workers in some cases, accountability and responsibility to provide quality health services regularly and on time, inadequate professional skills related to experience, educational quality and inadequate on job training put significant impacts on implementation of health services according to the national

health policy. This greatly influences quality of health services and level of customer satisfaction at studied rural settings.

2.3.2 People-Centered Health Service Delivery

People centered health services defined as the process of service provision that consciously considers and purposefully adopts a person facing perspective. This orientation is driven by the potential to secure health gains through the provision of services that are tailored to an individual's needs for care that is continuous, appropriate, responsive and acceptable to the population systems aim to serve. Importantly, working towards people-centered health service delivery recall the principles of a primary health care approach and goals of improving health for all and reducing inequalities (WHO, 2014). Health care is one of the crucial components of basic social services that have a direct linkage to the growth and development of a country as well as to the welfare of the community (FMoH, 2010).

Quality health care delivery affects all sectors of the economy relies on a health working population to offer skill and unskilled labour for increased productivity and for the growth of the national income. This had necessitated the need for a system of continuous quality improvement committed to providing better medical services as a surest way of ensuring quality health care delivery. Despite the modern scientific development and technological advancement in health care delivery; issues of patient-centered health care delivery still needs improvement (Ofosu, 2012).Similarly WHO also defines that health as a complete state of physical, mental and social well-being and not merely the absence of disease or illness (WHO, 1947).

2.3.3 Health Service Delivery System Arrangement in Ethiopia

According to Abebe and FMoH (2015) HSDP IV was introduced a three-tier health delivery system in Ethiopia. The primary level of health system consists of primary health care units consisting of primary hospital, health centers and health posts. The parts of primary level of health system which is a health center and five Satellite health posts are mostly located at peripheral rural settings. These provide services to approximately 25,000 people altogether; primary urban health center planned to serve 40,000 people. A health center is staffed with an average of 20 staff. It provides both preventive and curative health services. It service as a referral center and practical training institutions for HEWs. A health center has an inpatient capacity of 5 beds. A primary hospital provides inpatient and ambulatory services to an average population of 100,000 people. In addition

to what a health center can provide, a primary hospital provides emergency surgical services including cesarean sections and gives access to blood transfusion services. It also service as a referral center for health centers under its catchment areas, a practical training center for nurses and other paramedical health professionals. A primary hospital has an inpatient capacity of 25-50 beds and is staffed by an average number of 53 persons (Abebe & FMoH, 2015).

Secondary levels of health system services are provided by general hospitals where as tertiary level of health system services are provided by specialized hospitals. A general hospital provides inpatient and ambulatory services to an average of 1,000,000 people. It is staffed by an average of 234 professionals. It serves as a referral center for primary hospitals. It also serves as a training center for health officers, nurses and emergency Surgeons categories of health workers. A specialized hospital serves an average of five million people. It is staffed by an average of 440 professionals. It serves as a referral for general hospitals. Generally the three standards of health service delivery system in the country linked to each other by referral system from bottom to top level in cyclically (Abebe &FMoH, 2015).

The provision of service delivery should address existing gender, geographic, economic and socio demographic inequalities. The health service delivery pillar ensures that all people can use the promotive, preventive, curative and rehabilitative health services they need of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship (FMoH, 2015).

Despite this at study areas it was observed that that majority of households were inaccessible and under utilization of basic health extension packages. Maternal and child health services especially immunization and skilled delivery services was underperformances as health extension workers never conduct any delivery services and majority of pregnant mothers found in kebeles has been so far from health centers at rural areas. Health extension workers at health posts were not well equipped with skills and knowledge to treat acute infectious diseases and unable to help rural people much more in treatment aspects and delivery services.

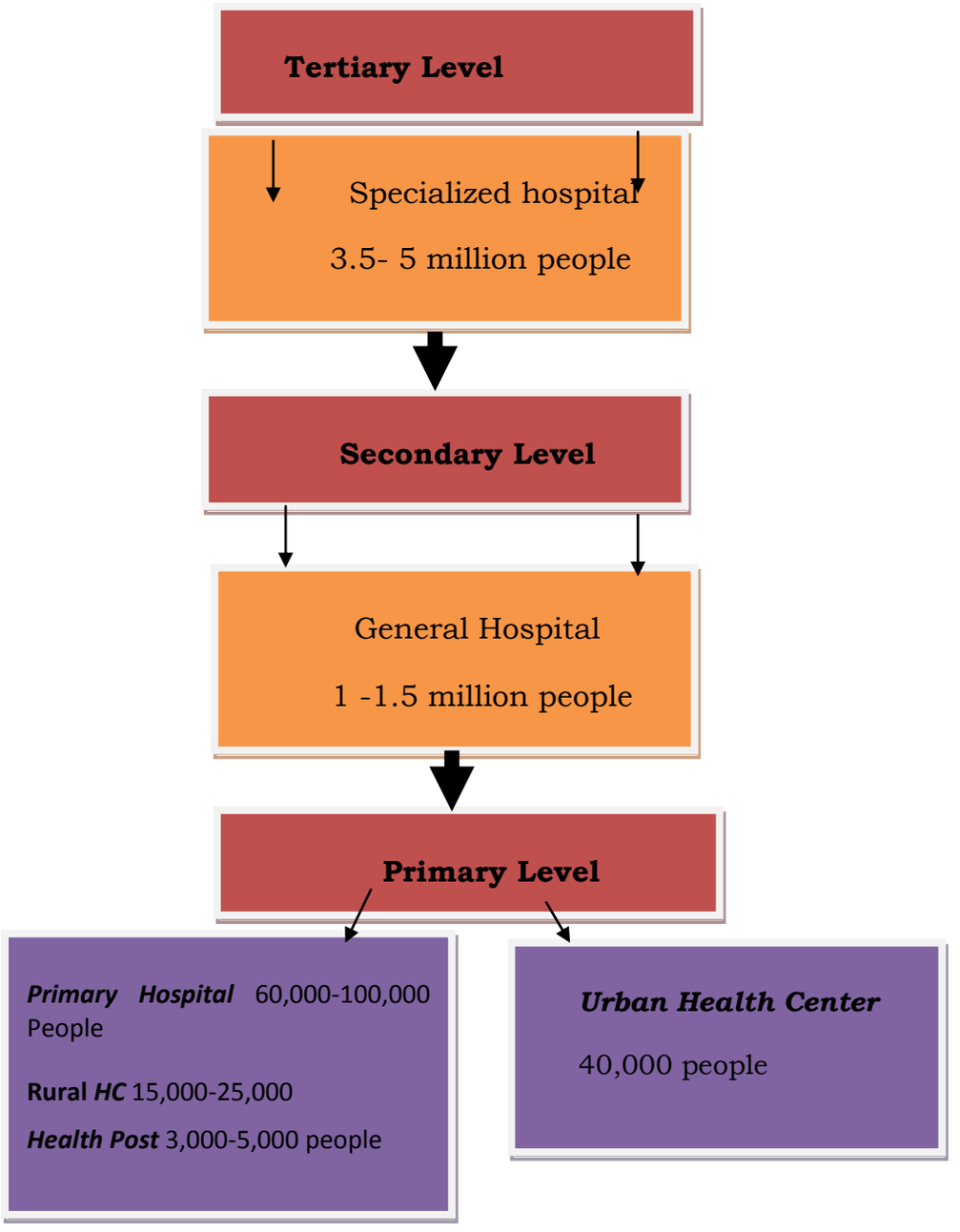


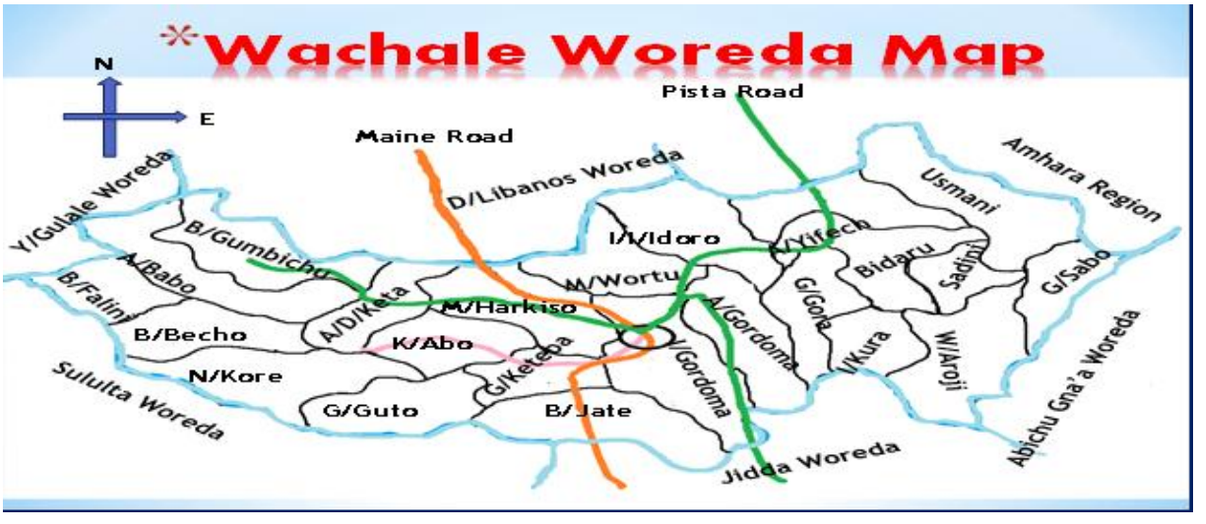
FIGURE 3: ETHIOPIAN HEALTH TIER SYSTEM

Source: Adapted from Abebe, A. (2015, p. 5). Improving health system efficiency, Ethiopia: Human resources for health reforms, Catriona Waddington.

Chapter Three: Research Setting and Methodology

3.1. Description of the Study Area or the Case

Wuchale woreda is one of the largest woreda in north shoa administrative zone of oromia region. The capital or main town of the woreda namely muketure is found on the street of Addis Ababa, Gojam-Gonder Asphalt road located at about 78km from Addis Ababa city to the north. It is 35km from zonal capital city (Fitche) to the south. The woreda has 27 kebeles of which 24 are rural kebeles, one kebele muketure is a capital town of the woreda where as others two are on growing towns with poor facilities namely Gumbichu and Woberiy. Gumbichu health center is 14 km from asphalt road or main woreda town to north-west direction. Kara health center is found in rural kebele to south west of the woreda and 15 km from main woreda town without electrification and medical laboratory services for years.



MAP 1: ADMINISTRATIVE MAP OF WUCHALE WOREDA IN ITS NATIONAL AND REGIONAL SETTINGS
Source: Central Statistical Agency of Ethiopia

According to information obtained from CSA Wuchale woreda is bordered by Sululta woreda on the South, Debrelibanos woreda and Amahara region on the North, Abichugna and Jidha woreda on the East and Yaya-Gulale woreda on the west. The Astronomical location of the woreda is latitudinal $9^0 25^0$&$9^0 47$” N and longitudinal $38^0 38^0$&$39^0 55$” E. Agro-ecological-Zone of woreda can be referred to as Dega 69.8% and woina-dega 30.2%. The woreda has total land areas of 48,880hectares or 697.9sq. kms. The lowest and highest elevation of the woreda is 1200m and

2,880m above sea level respectively; and most of lands are plains 80%; irregular, depressed and valley lands 15%; mountains and hills are 5%.

The total population of the woreda projected by CSA from (2007) total population and it was found to be 129,150 habitants in 2018; almost the male and female distributions are equal and 1:1 proportions. 8.4% populations are living in main woreda town muketure consisting 48.5% are males and 51.5% are females. The two largest ethnic groups in the woreda are the Oromos 90% and the Amahara 8%, and all other ethnic groups made up of 2% of the population.

Before 2008 rural health service provisions in Wuchale woreda was at clinic level with limited skilled health workers and without health extension workers in all kebeles; but after 2010 all clinics were upgraded gradually to health centers and health posts construction were addressed to all rural kebeles; and consequently began to provide and took great interventions to all dimensions of rural health services. The government addressed this interventions by assigning medium level health workforces and some supportive staffs which was greater in numbers than during the clinics; together with assigning two female extension workers per kebele. As health centers health work forces coordinated and collaborated with health extension workers the activities of preventive health services and curative health services showed remarkable results for the first time. These health professionals also worked with DAs, kebele managers and councils and also with woreda cabinet to execute national health policy, to reduce rural health problems and make each household free of open defecation (ODF) by assisting to construct latrine; to provide basic maternal and child health services on the way of these activities. As a result many latrines were constructed and graduated for the first time. Many families also got awards as fulfilling the criteria of model families.

After 2015 the constructed and graduated latrines were gradually depreciated and became out of use, the number of health workers per health post decreased. The collaborated and coordinated outreach as well as integrated health services for rural households were decreased, modeling and provision of awards for household families ceased together with health monitoring and evaluation systems especially after recent political conflicts was upraised in the country.

Recently Wuchale woreda has four rural health centers, one urban health center and one primary hospital in the Muketure town which started service deliveries in the current 2018 budget year. The private clinics and pharmacies has concentrated mostly in Muketure town. The two distinct rural health centers on which this study carried out was Gumbichu health center having four kebeles and Kara health center consisting five kebeles with total population 9,910 and 21,751 respectively.

The health sector services are implemented in the woreda through one primary hospital, one urban health center and four rural health centers and twenty seven health posts. The woreda or the study area is malaria free except Bachew Falinni kebele under Kara health center though it has been well controlled. As data of woreda health office has showed no epidemic diseases break out have been seen in the woreda in recent years except diarrhea diseases due to cholera in 2010 and measles break outs in 2014 under Kara health center and Gumbichu health center respectively.

The main health problems in the woreda is diseases of musculoskeletal and connective tissues, infections of the skin and skin tissues, urinary tract infection, trauma, diarrhea of different types, intestinal parasites, respiratory infections, acute febrile illnesses, anemia and sexual transmitted infections are among ten top diseases from largest to smallest number among adult people and above five years older patients. Acute upper respiratory infections, diarrhea, pneumonia, severe acute malnutrition and infection of the skin and subcutaneous tissues are among five main prevalent health problems respectively from largest to smallest among under five years old children.

Limited transportation vehicles largely has affected referral system from health center to hospitals and supportive supervision from woreda to health centers and from health centers to health posts. Poor infrastructures, shortage of skilled human resources both at health centers and health posts, staff turn-over both at health centers and health posts; non-budgeting to recruit and replace staff turn-over is frequent observed health policy implementation challenges in the woreda and study areas. The health service delivery is mainly executed hiring insufficient health workers found in health centers and health posts by taking or assigning existing workers in additional boxes where the workers was released. Executing frequent main campaigns and regular outreach programs in this way and to access maternal and child immunization services and implementing basic diseases prevention health packages especially in Kebeles where health extension workers have not existed has become a challenging job.

The sanitation and related regulatory works is very weak in the woreda from main town hotels to rural market places and improper slaughtering places in small rural growing towns in addition to lack of public latrine and open defecation practices which has significant contributions for communicable diseases transmissions and burdens. Poor local government health financing and non-existent of donors to support health sector services to work actively on preventive health programmes and health extension packages inhibit the successful implementation of basic health packages at rural households and villages. Communicable diseases remained public health problems for years. Poor budgeting to the health sector both capital and recurrent has usually raised

argumentation between woreda health sector heads and woreda administrative councils and for this reason there were occasions when woreda budget confirmation delays more than one's expectations.

Local governments run and fast to construct and graduate health facilities to fill the numbers of planning. But after wards, turn their eyes from filling skilled human resources, proper and timely drug supplies and other health service resources by allocating sufficient budgets to implement health service programmes health extension packages according to national health policy. Moreover, woreda administrative and political office of the ruling party has taken away many extension workers from health posts without replacement to put them and appoint in different political positions of woreda administrative offices. Thus national health policy has not implemented at practical level as stated and ratified at national government and parliamentary levels. Health policy theoretical level and local practically implementing level is back and front particularly in this recent political uprising and instabilities. Some rural people by themselves want to engage in conflicts, suspicious and opposing sides with health workers rather than participating and working with health workers to promote and enhance rural health performances.

3.2. Research Approach and Design

Research approaches are research paradigms in which research efforts is guided by some "world views" or methodologies, which could in some way or another be influenced by the views distinct assumptions (Creswell, 2009). From the four "worldviews" post-positivism, social constructivism, pragmatism, advocacy and participatory approaches; pragmatism research approach was employed for this study since the pragmatic research paradigm provides a philosophical underpinning for mixed methods approach. Many pragmatism as a world view rises out actions, situations, and consequences rather than antecedent conditions. Instead of focusing on methods, researchers emphasize the research problem and use of all approaches available to understand the problem. This study on health service delivery system and customer satisfaction at rural health centers of Wuchale woreda was fundamentally based on the pragmatic view.

As Creswell (2003) argues, pragmatist link the choice of approach and methods directly to the purpose and nature of the research questions posed. The research problems and questions raised previously lead themselves to employ a pragmatism approach; as they can be best addressed by essentially mixing the approaches and methods in research process. The research design the researcher undertook for this study was mixed methods.

Mixed method research is encouraged as enable others to employ multi-method matrix to examine multiple approaches to data collection. This is prompted others to mix methods such as observations, questionnaire surveys, focus group discussions and interviews just to mention for both quantitative and qualitative features of data collection methods. Triangulation data sources is a means for seeking convergence across qualitative and quantitative methods was born by the early 1990s, the idea is moved from seeking convergence to actually integrating or connecting the quantitative and qualitative data.

Proper implementation of national health policy, health service delivery system, health sector program and implementing strategies are challenged at rural local government level; regular services which has been delivered for wide local people encountered both quantitative and qualitative manifestations of problems. Additionally the health policy and service delivery system on hand and under implementation lacks capability to solve health gaps related to service accessibility, equity, comprehensiveness, consistence, and quality health services especially for those kebeles and villages distantly found from today health centers at rural grass root level.

The health service delivery problems in which this study was carried out comprises qualitative data which was obtained through open type of questionnaire survey, key informant interviews and long term observation of the researcher; primary data which was collected through closed questionnaire survey from customers mainly has the nature and indicators of quantitative and qualitative type of research. The service delivery problems because of improper health sector policy implementation, weak service delivery interventions by local governments, non-autonomous local government, absence of devolutionary decentralization directly or indirectly affects local institutional structures and development which is manifested as improper health facilities organizational structures with inadequate facilities and infrastructures. Absence of proper service units and in some cases completely absence of service units, and inadequate facilities which was collected and confirmed through in depth interviews and focus group discussion, respondents elaboration through open-ended questions in addition to the researcher eye witnesses mainly has the characteristics qualitative data and leads to qualitative research types. Qualitative research methods include the techniques of interviewing, personal observation and document analysis. Thus, the health service delivery and associated customer satisfaction problems at rural health centers of the study area and as problems listed in chapter one enforced the researcher to carry out mixed types of research.

3.2.1. Research Type

The research type employed for this study was descriptive and explanatory research types but more emphasis was given to description research methods. Descriptive research is aimed simply at describing phenomena and is not particularly concerned with understanding why behavior is the way it is. It is often the starting point of a research project into phenomena. This type of research describe social systems and relationship between events, providing background information as well as stimulating explanations (John, A. et al., 2007). Description research attempts to describe systematically a situation problem, phenomenon, service or program, or provides information such as about the living conditions of a community or describes attitudes towards an issue. It may attempts to describe the types of service provided by an organization, the administrative structure of an organization, the living conditions of Aboriginal people in the outback, the needs of a community, what it means to go through a divorce, how a child feels living in a house with domestic violence, or the attitudes of employees towards management (Ranjit, A., 1996).

Descriptive research includes surveys and fact finding inquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present research and can describe natural or social phenomenon. Descriptive research is thus a type of research that is primarily concerned with explaining the nature or conditions or the degree of intensity of a factor under investigation. The emphasis is on portrayal of the overall nature of the subject understudy as it is rather than making deep judgment. The key initial task to focus on planning a descriptive research type is identifying the problem and distinguishing the object of analysis, comprehending the variables/factors to be measured or observed. Clear demarcation of the population and selection of a representative sample, and testing samples from an integral part of descriptive research would be the work of the researcher. These will determine the way in which the researcher explains the situation and proceeds with the technical details of the study (Debrisa, 2018).

Explanatory research on the other hand attempts to clarify why and how there is a relationship between two aspects of a situation or phenomenon. This type research attempts to explain, for example, why stressful living result in heart attacks; why a decline in mortality is followed by fertility; or how the home environment affects children's level of academic achievement (Ranjit, A., 1999).

3.2.2 Variables of the Study

In research or science, a variable is any factor that varies or changes based on the nature of treatment. So, variables are important parts of research project and needs especial attention. In terms of the ways in which the variables may influence experimental result, they are generally categorized into independent, dependent and extraneous.

Dependent variables are the factors that observed or measured by varying the independent variables. Dependent variables are named after the fact that they depend on the level and intensity of the independent variables. The dependent variables includes practices of early ANC follow up, regular family planning attending practices, practices of early child immunization, practices of institutional deliveries, latrine using trends by family, practices of waste disposal by family, practices of separating human and animal houses, and practices of health service utilization by families; more importantly in particular to this study customer satisfaction is the dependent variable.

Independent variables are on the other hand are the factors that can be changed in all experiment to ensure clear observations and measurements. Some of the independent variables are socio-demographic information or data such as age, sex, ethnicity, religion, literacy or educational status, marital status, family income or household wealth, occupational status, number of surviving children and family size.

3.2.3 Data Source

Both primary and secondary data was conducted in this study. Primary data are those which are collected a fresh and for the first time and thus happen to be original in character. Primary data are that will come into being for the first time by the people directly involved in the research. Primary data have not been previously collected, to mean the data are derived from a new source by the new method or original research data collected at the source by the researcher himself and his data collectors. The major sources of primary data include surveys, opinion polls, scientific data, transcripts and documents. Patient/customer satisfaction or dissatisfaction, opinions and attitudes toward health centers services was collected through primary data collection methods.

Health service policy implementation gaps, resource allocation gaps for rural health centers and questions related to infrastructure problems and factors which mainly impacts appropriate health service delivery system and quality to rural people provided for health center heads in structured and unstructured interview questionnaire types as well as to some extent some questions inhibit

health service delivery at rural setting was discussed with health extension workers, kebele managers and health centers supportive supervisors through focused group discussions. Thus, this type of data collection methodology was regarded to primary data in this study.

Secondary data are those which have already been gathered and recorded by someone else and which have already been passed through statistical processes. Secondary data can use as the main source of the research or as a supplement to primary data. Secondary data is often used to validate the sample (John, A. et al., 2007). The use of secondary sources such as government produced records, personnel records, financial histories tend to be the quickest though there is an ever-increasing amount of data collections on different websites in recent globalized world. Even secondary data is less time and other resource consumed; there are some problems with secondary data that have to be considered: It may not be really valid to the researchers work and may be less representative. The data could be on tourist travel last year but the researcher wants to predict tourist travel this year. Often secondary data is aggregated to a regional or even a national level so it is not much use if it is to be tried to do local comparisons. Sometimes definition of the variable may have changed several times in the history of that variable.

In collecting secondary data, the researcher need to plan the data collection and should develop a strategy; the researcher identify the type of data in need is it numerical, textual or pictorial. Then he should decide how the data is going to be recorded (John, A. et al, 2007). Documentation is essential when collecting secondary data, one must record where the data is in terms of name and address of library, web address, book and page numbers etc. It is also important to record the date when the collectors collect the data and the authority behind the data collection. The researcher makes sure to read the notes about the data, how it was collected, who is included, what are the units things are measured in and any special events. As the time series changes because the definition of data may be changed thus watch out for structural breaks. So in collecting secondary data remember to PROD, i.e., plan, read, observe and document (John, A. et al., 2007). Thus secondary data sources of this study was libraries, research products, government and non-government organizations publications, websites, federal ministry of health publications, woreda health offices and health centers documents possessing accurate and recent information.

In this study data for literature review national health policy, national health service delivery system, programs, strategies, population size and designing and selecting appropriate sample size formula, woreda health profile as well as ten top diseases of the health centers was assessed and collected through secondary data collection methods using either official documents and internet

websites. Concerning data collecting instruments and strategies, the questionnaires were developed from different literatures considering five components of SERVQUAL tools, selecting the most applicable, reliable and questionable in context rural health centers service delivery system problems, research questions and objectives. The SERVQUAL tools tangibles, reliability, responsiveness, assurance and empathy were well assessed by the researcher before constructing questionnaires applied for level of customer satisfaction from health services.

The satisfaction measurement items were divided into four sections including premedical services rendered by supportive staffs; health professional related services for outpatients at OPD, dispensary and laboratory services; maternal and child health services mainly rendered by midwifery nurses at MCH; and health service administration and sanitation related questions. A total of 25 variables were used to assess the satisfaction level of the customers at Gumbichu health center while 23 questions were used for Kara health center customers excluding two questions of medical laboratory services. In addition, 11 key informant interviews with two health center directors and 5 focus group discussions/interviews with 6 rural extension workers, 4 supportive supervisors, and 3 kebele managers were conducted to supplement survey questionnaires.

Customers level of satisfaction was recorded using a 5 point Likert scale (1= very dissatisfied, 2= dissatisfied, 3= Neutral, 4= satisfied and 5=very satisfied). But, in this study 1 & 2 was merged and became 2= dissatisfied; 5 & 4 was merged and became 4= satisfied, and 3= neutral so as to simplify the procedures of data analysis for the study.

The researcher developed a list of 18 questions and indicators based on five SERVQUAL models or tools to measure customer satisfaction at outpatient level. Seven questions was developed for maternal and child health service satisfaction measurement independently and added them inclusive to 18 OPD questionnaires since women can put their health service experiences and perceptions found at both OPD and MCH departments. Basically and practically women are greater health service utilizers and attendants when compared with men as they are major participants of all health services at maternal and child health and at outpatient departments for themselves and their under-5 and older years children. Thus MCH respondent women were inclusive to OPD questionnaires but OPD respondents were exclusive to seven maternal child health questionnaires.

In light of this the mean score of dissatisfaction for each customer was calculated as the average of satisfaction items. A mean score of more than 3 were taken as an indicator of service provision was dissatisfaction. A mean score of less than 3 were taken as an indicator of service provision was regarded to satisfaction. As number 3 is without of the two scales, it was taken to be neutral.

3.2.4. Data Gathering Tools

The set of standardized questionnaires included both structured and semi-structured questionnaires. They were developed for the purpose of data collection by reviewing relevant literatures. The first part of the questionnaires comprised basic socio demographic variables including age, sex, residence, educational and occupational status. The second parts of questionnaires included questions about the level of patient/ client satisfaction from service experiences and expectations comprised dimensions to measure client level of satisfaction and factors affecting it. The third part consisted of basic health extension package performances at rural settings such as source of drinking water, availability of standardized latrine, household waste holes and quality of dwellings. The fourth part was supportive key informant interview and group discussion questionnaires related to health center service delivery problems and which could be sufficient factors for quality health services and associated customer satisfaction. This was added during questionnaire constructions to supplement customer satisfaction measurement survey questionnaires and to enhance the depth of the study.

The initial English version of the customers survey questionnaires was translated to local language oromiffa and then back translated into English independently to check for consistency and semantic validity. This was mainly because of the majority of rural setting customers were illiterate and unable to respond for English languages.

Questionnaire Survey: Questionnaire-based survey was administered for sample health centers customers after listing names from card room registration using systematic sampling methods and by using standard questionnaires after obtaining the consent of the respondents as a research ethics. The questionnaire was translated into Afan Oromo for the purpose of simplicity and ease of communication between the data collectors and the respondents. With this technique data related to demography, socioeconomic, service satisfaction practices, diseases preventive health practices and adoption was collected. In order to maintain the quality of data, scientific principles and guidelines during questionnaire designing, data collection, data filling, encoding data entry and processing was applied. Data collectors were oriented on issues related to data collection procedures and ethics. Pilot study was undertaken for pre-testing the questionnaire in order to estimate the time needed to complete and implement it. The questionnaire was edited in the light of the results of the study. Computer-based cleaning was carried out to check for the completeness, consistency and accuracy of data and to identify errors that may occur during data collection or coding process.

Key Informant Interview: In addition to the cross-sectional survey carried out, health center heads and supportive supervisors of health centers was interviewed to obtain further relevant information and justifications. The in-depth interview was focused on organizing formal interview with the aim of facilitating open interaction between the key informant and researcher through inviting key figures in the respective institutions relevant for the issue under discussion to participate in open dialogue forum. The key informant interview was done face to face.

Focus Group Discussion: Focus group discussions were carried out with a mix of participants such as supportive supervisors, kebele managers and health extension workers. The participants were respectfully requested for their consent, time and the information. Topics related to issues of service delivery system practices, hygiene and environmental sanitation, adolescent health, maternal and child health services, health extension package accessibility, health service delivery problems, health center service standards, challenges and supports from the government and NGOs was addressed.

Field/Own Observation: In addition to other data collection methods, a field visit was executed by the researcher to substantiate and augment the information obtained through other primary and secondary data collection tools as the researcher by himself one member of health center workers and had much eye witnesses for over ten years experience regarding rural centers problems towards service delivery system and associated customer satisfaction; it has been a good opportunity to observe problems in health centers in aspect of quality health service delivery and factors affecting it.

Secondary Data Sources: Besides the aforementioned data collection techniques and procedures, further intensive desk review published and the unpublished documents such as books, journals, and articles also were assessed. Documents from ministry of health, non-governmental organizations working on health such as USAID, WHO and individual publications were contacted for secondary data sources.

3.2.5 Sample and Sampling Techniques

Sampling Techniques: Wuchale woreda is one of the 14 woredas of North Shoa zone in Oromia Regional state of Ethiopia. According to the data obtained from the central statistical Agency (2018) there are 27 kebeles in the woreda. By registering all customers getting service within a year at two rural health centers separately from card room registration book the total customers were 2,476 of

which 1,167 customers were from Gumbichu health center and 1,309 were from Kara health center. The researcher used these numbers as a sampling frame for the two health centers.

Thus, systematically respondents were selected stepwise and hence every four of the respondents were eligible to be responded for carefully prepared questionnaires depending on sample size. Therefore as stated above the sampling technique used for this study was systematic probability sampling. The sampled customers in the two health centers was classified proportionally based on the departments that the service would be provided since customers of health centers are different based on age, gender and service types. Accordingly outpatient treated, under-five children treated, under-two years child immunization and those come for maternal health services such as family planning, antenatal care and delivery services was differentiated.

Though the researcher expected that all respondents would volunteer to all questionnaires; however, the rate of getting responses from respondents was 98.5% as all the respondents could not be touched during the survey. The purposive sampling technique had originally employed to select two rural health centers from other health facilities. Because these two health centers Gumbichu and Kara health centers have had poor health infrastructures, internal facility deficits and low minimum service standards of health center while possessing large rural populations.

A total of 2,476customers under the two rural health centers from the total five health centers in the woreda was obtained by listing down all clients getting service in one year from registration book at card room. This ensures most representation stratum than the total population and results in more reliable and detailed information as it would be resulted in appropriate sample size. The unit of analysis also would be not every individuals or households but normal adult customers above 18 years who were selected systematically, living under either of the two health centers catchment.

Sample Size Determination: According to the information obtained from listing down of customers at card room registration book from January 1, 2018 up to December 30, 2018 the total number of customers in the two rural health centers was 2,476.Then the number of sample customers size for questionnaire survey was determined to be about 604 using Yemane, T. (1967) simplified sample size determination formula. The researcher interested to choose this formula among others recent sample size formulas such as Deribsa (2018) ; because this sample size formula is not complex to apply and emphasizes to use 5% marginal error when compared with others complicated formulas.

$$\text{Sample size} = \frac{N}{1+N(e)^2}$$

For this study ±5% precision or margin of error at 95% confidence interval (2α/2) as baseline was used. In the above sample size formula N is the population size (customers size), e= the acceptable sampling error which is 5%. Applying the formula for each health center under study sample size of Gumbichu health center (four Kebeles) from sampling frame 1,167 was 298, and sample size of Kara health center (five Kebeles) from sampling frame 1,309 was 306. This sample size is sufficient and appropriate sample size to carry out this study. Because Peng (2006) verified that the minimum sample size of 100 respondents is required for any quantitative research to get a significant result. Then the sample size was proportionally allocated to each service department of health services.

TABLE 1 SAMPLE SIZE OF THE STUDY AREA

Health centers	Customers size	Proposed Sample size per Health center	Actual Respondents (98.5%)	Number of kebeles
Gumbichu	1167	298	294	4
Kara	1309	306	301	5
Total	**2,476**	**604**	**595**	**9**

Own survey (2019)

3.2.6 Data Analysis Techniques

Data analysis refers to the process of evaluating data using analytical and logical reasoning to examine each component of the data using analytical and logical reasoning to examine each component of the data (McNabb, 2008). After carefully gathering the appropriate data using the relevant instruments of data collection the analysis was carried out using percentage, averages and frequency were used. A single excel or software like statistical packages for social sciences SPSS and EP-Info was used for data analysis for this study.

Qualitative Data Analysis: Qualitative research poses a challenge to the researcher in terms of how to reduce what may feel like an overwhelming amount of data gathered from in-depth interviews, observations and written documentation. There are a number of approaches in doing

this; sophisticated computer packages, traditional manual techniques. To start qualitative data analysis, data has to be prepared in the scientific method, this is inevitably reductionist, all the observations, inflections in tone, the in tone the words were combined all of them cannot be captured (John, A. 2007). Qualitative data analysis is generally iterative in the sense that data collection, analysis and interpretation can be done in parallel and simultaneously (Creswell, 2009). This would be practically applied in qualitative component of the research. The perspectives chosen in this study and each research questions would lead to qualitative approach of data analysis with relevant quantitative evidences to triangulate the findings.

The analysis from triangulation results would then be connected to theoretical propositions and the larger body of knowledge addressing the research problem. Connecting meanings from qualitative and quantitative information, logical interpretation was made to answer the research questions. The patterns, trends and interconnections of the results was analyzed and interpreted in light of the research questions, the theoretical and empirical literature that would be presented in this thesis

Quantitative Data Analysis: Statistical Package for the Social Sciences (SPSS) was used to analyze the data obtained from the field. The results would be in the forms of frequency tables. Inferences and calculations was made from these measures and compare with the existing literature to arrive at the calculations of the study. The quantitative data analysis in this mixed concurrent triangulation research with qualitative emphasis was used to supplement quantitative analysis and interpretation.

3.2.7 Ethical Consideration

Prior to this study an official letter from the Addis Ababa University, college of business and economics, department of public administration and development management post graduate office coordinator was written to any concerned bodies for cooperation in providing the necessary information and data. All information and ideas that was obtained from the respondents were treated with confidentiality without disclosures of respondents identity. During data collection, ethical considerations was seriously taken into account to ensure the protection, anonymity, consents and other human elements of the informants.

Chapter Four: Data Presentation, Analysis and Interpretation

4.1. Socio-Demographic Characteristics of Respondents

This section of the study deals with presentation, analysis and interpretation of data collected through questionnaires, key interviews and focus group discussions. The first part of the questionnaire was designed to gather information about respondent characteristics.

As stated in research proposal 604 respondents were expected to provide their opinions or expectations about the service or to be eligible for research survey questionnaires. That means 306 respondents from Kara health center and 298 respondents from Gumbichu health center. In a few cases and unfortunately there were a condition that the respondent missed from home for different reasons, and hence only 301 respondents under Kara health center and 294 respondents under Gumbichu health center totally 595 respondents could be contacted responded for all outpatients, maternal and child health services SERVQUAL questionnaires. So the total rate of response was 98.5%, though all questionnaires were properly provided for eligible respondents.

The next part of questions was prepared for health centers directors in structured and unstructured type of interview questionnaires for intention of supporting this study and in depth understanding of rural health centers service delivery situations together with group discussions with supportive supervisors, health extension workers and kebele managers under the catchment of each studied health center. This study was conducted to assess and analyze the status of health service delivery system and associated customer satisfaction at rural health centers in Wuchale Woreda, Oromia Regional State of Ethiopia.

The factors and problems which inhibit health policy implementation at rural health centers was deeply and briefly assessed and alternative health service delivery system, health policy formulations and strategies would be put by the researcher. All relevant information that was collected through questionnaires was analyzed and the detailed description and explanation about each part of information from the different respondents were presented in a series of tables below. All information obtained from the respondents was treated confidentially without disclosure of the respondents' identity. Moreover, no information was modified or changed, hence information gathered was presented as collected; and the relevant literatures collected for the purpose of this study was appreciated in bibliography list.

From the interviewed customers 28.24% was male, 71.76 was female at Kara health center; while 24.5 % and 75.5% of the customer respondents was male and female respectively at Gumbichu health center. Customer respondents proportionally classified based on health service categories and departments. Accordingly, 60% were customers of out-patient department who visited health center because of illness; 40% were visited the health center for maternal and child health services such as family planning, antenatal care, delivery and child immunization health services at Kara health center and all are women of child bearing age; where as 59.87% were customers of out-patient department who visited health center because of illness; 40.13% were visited the health center for maternal and child health services such as family planning, antenatal care, delivery and child immunization health services at Gumbichu health center, hence, all maternal and child health service respondents were women of child bearing age.

The highest proportion 38.87% respondents were in the age group of 25-34 years at Kara health center while the highest proportion 38 % respondents were in the same age group of 25-34 years at Gumbichu health center. Among respondent customers 85% were married whereas about 10% were single and 5% were divorced at Kara health center. At Gumbichu health center 82.65 was married, 9.86% single and 7.5% divorced. From the survey out of the total respondents 94.2 were illiterate who could not read or write at Kara health center while it was found to be 92.2% at Gumbichu health center. Occupationally 1% was government employee at rural settings, the majority 99% were farmers. All respondents 100% were above 18 years and rural residents and over 80% were repeat service users at both health centers as depicted in table 2 below.

TABLE 2 SCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS (N=595).

Variables		Kara health center		Gumbichu health center	
		Frequency	Percentage	Frequency	Percentage
Sex	Male	85	28.24	72	24.5
	Female	216	71.76	222	75.5
Age in years	18-24	80	26.57	70	24
	25-34	114	37.87	113	38
	35-44	70	23.25	76	26
	45+	37	12.3	35	12
Marital status	Single	30	10	29	9.86

	Married	256	85	243	82.65
	Divorced	15	5	22	7.5
	Illiterate	283	94.02	271	92.2
	1 – 4	12	4	11	3.74
	5 – 8	3	1	4	1.36
	9 – 12	1	0.33	3	1
Educational status	TVET+	2	0.66	5	1.7
	Farmer	299	99.34	291	99
	Government employee	2	0.66	3	1
Occupational status	Students	0	0	0	0
	Rural	301	100	294	100
Address	Urban	0	0	0	0
	Free	0	0	0	0
Payment status	Paying	301	100	294	100
	Illness	181	60	176	59.87
	ANC& Delivery	30	10	28	9.52
	Family planning	60	20	59	20.07
Reasons for visit	Child immunization	30	10	31	10.54
	New visit	41	13.55	55	18.7
Frequency of visit	Repeat visit	260	86.4	239	81.3

Source: own survey data (2019)

Customer Level of Satisfaction with Pre- Medical Services at Kara Health Center

Customer level of satisfaction from availability of information that leads where customer wants to going in the health center was 43%. This indicator related to personnel who would tell them the service room they want to going. This is directly linked to tangibles from SERVQUAL models. Customer level of satisfaction from availability of the sign which indicates the service rooms was

41.86%. This sign is basically tangibly standing where it could be visible for customers as they enter public service providing organizations.

Customer level of satisfaction from waiting time to get a card at registration room and problems associated with lost mini client card was 37.87%. This was due to tangibly and unavailability of computers with light in the service unit. This lowest percentage is sum of the three categories of customer satisfaction with waiting time to get a card. The satisfied customers 20.6% waiting less or equal to 5 minute, 3.32% of customers waiting 6-10 minutes, and 13.95% waiting greater than 10 minutes. The card room at Kara health center has had problems of adequate room size, its own recruited worker; it was given for different volunteer supportive staffs including guards and cleaner as official additional job at different occasions.

The satisfaction level from availability of original card from computer when client lost previous mini card was 34.55%. This relates to reliability of services from five tools of service quality measurements. The frequency of customers registered for a new card as their previous card was lost or unable to find was 16.28% registered and paid for new card two times, 3.98% registered and paid more than two times and 20.6% registered for more than three times. Customer level of satisfaction among eight indicators with pre-medical services which related to willingness and helpfulness of the personnel at the card room was 56.47%. It showed responsive assistance of the card room personnel and has related to responsiveness from the service quality models. The satisfaction level from the courtesy and respect of the personnel at card room was 57.47%. This is the highest level of satisfaction at premedical services indicates ability level of the personnel at card room and relates to assurance from the service quality tools. The overall level of customers satisfaction with premedical services at Kara health center was 45.18% (Table 3 below).

TABLE 3 CUSTOMER LEVEL OF SATISFACTION WITH PRE-MEDICAL SERVICES AT KARA HEALTH CENTER (N=301 FOR OPD AND MCH CLIENTS INCLUSIVE)

	Kara health center					
	Satisfied		Neutral		Unsatisfied	
Variables	No.	%	No.	%	No.	%
Availability of information where customers are want to going	130	43	6	2	165	55
Availability of the sign that indicates the service rooms	126	41.86	15	4.98	160	53.2

The waiting time to get the card at registration room						
.≤5 min	62	20.6	6	2	28	9.3
.6-10 min	10	3.32	5	1.66	65	21.6
.>10 min	42	13.95	9	3	74	24.6
Availability of original card from computer when clients lost the previous offered mini card	104	34.55	10	3.32	187	62.1
The frequency of customers registered for a new card as the previous mini card was lost						
.=2	49	16.28	5	1.66	26	8.6
.>2	12	3.98	7	2.32	69	22.9
.>3	62	20.6	6	2	65	21.6
The willingness and helpfulness of personnel working at the card room	170	56.47	9	3	122	40.5
The courtesy/respect of the personnel in the card room	173	57.47	11	3.65	117	38.9
Overall level of satisfaction before getting to medical services	136	45.18	14	4.65	151	50.2

Source own survey (2019)

Customer Level of Satisfaction with Different Components of Health Services at Kara Health Center

The level of satisfaction from health workers service provision willingness and availability at service rooms was 59.8% among eight indicators of different components of health services. It is the highest level of satisfaction and related to responsiveness of health workers from service quality models. The level of satisfaction from adequacy of health information provisions, explanations of procedures and consultancy services was 35.22%. This showed empathy of health workers towards clients. The level of satisfaction from courtesy or respect of health workers during service provision

was 57.8%. This indicator shows the level of health workers ability to assure clients. The level of confidentiality and privacy given to clients concerning health problems and service provided was 52.16%. This also indicates how health workers assure clients especially when it is in need.

The satisfaction level of clients from capacity of health center to solve client health questions and problems was 45.85%. This indicates health workers responsiveness to solve their problems promptly and to make their questions heard and solved. The satisfaction level with accessibility to latrine, cleanliness of service rooms and sanitation of health center environment was 56.15%. This indicator assesses that latrine availability at short distance from service room especially when some samples are required for laboratory examinations. It also indicates cleanliness of especial rooms such as emergency room, minor operation room, laboratory rooms and health center environment. Generally it assessed tangibility parts from service quality models. The level of satisfaction of customers from accuracy of dispensary services &availability of ordered drugs was 33.9% which is related to reliability and tangibility of the service quality. The overall satisfaction level of customers for different components of health service deliveries at Kara health center was found to be 42.2%.

The maternal and child health level of satisfaction at maternal and child health department also was conducted independently based on the survey data from women of child bearing age who are above 18 years old using seven indicators. As a result, the satisfaction level of clients from attention and compassion of health workers giving to them during services provision was 45.8%. This indicator measures empathy of health workers towards clients. The satisfaction level of clients from willingness and helpfulness of health workers at MCH was 51.7%. This indicator indicates responsiveness of health workers towards clients and measures readiness of the staff to provide prompt service at the department. The level of satisfaction from availability of self choice contraceptives was 38.33and availability of vaccines was 25.8%. These indicators relates to tangibility among service quality models and measures availability of contraceptives a women prefer to her health and vaccines when she visit health center especially for child immunization.

The satisfaction level from technical ability of care & proper appointments of clients was 48.34%. This indicates ability of health workers to perform the promised and expected services accurately. It is related to the reliability of services. The satisfaction level of clients from respectful caring and interpersonal relation during ANC and delivery services was 55.84%. This indicator indicates ability to convey trust and confidence towards client through knowledgeable behavior especially in case of pain and discomfort conditions. It shows assurance among service quality models. The overall satisfaction of maternal and child health services at MCH was 43.33%. This indicator

purposely constructed for clients to measure all parts of the services at the department as a whole (Table 4) below.

TABLE 4 CUSTOMER LEVEL OF SATISFACTION WITH DIFFERENT COMPONENTS OF HEALTH SERVICE DELIVERY AT KARA HEALTH CENTER (N=301 FOR OPD AND N=120 FOR MCH)

	Kara health center					
	Satisfied		Neutral	Unsatisfied		
Variables	No.	%	No.	%	No.	%
Health workers service provision willingness and availability at service rooms	180	59.8	13	4.3	108	35.9
Adequacy of health information provisions, explanations of procedures and consultancy services	106	35.22	10	3.32	185	61.46
Courtesy/ respect while providing services	174	57.8	6	2	121	40.2
Confidentiality and privacy about health problems and service provided	157	52.16	21	6.97	123	40.87
The capacity of health center to solve clients health questions and problems	138	45.85	39	12.95	124	41.2
Overall medical services of health workers	127	42.2	35	11.62	139	46.18
Accuracy of dispensary services and availability of ordered drugs	102	33.9	26	8.69	173	57.47
Accessibility to latrine, cleanliness of service rooms and sanitation of health center environment	169	56.15	11	3.65	121	40.2
Maternal and child health only questions						
Attention and compassion of health workers in service provisions	55	45.8	6	0.05	59	49.16
Willingness and helpfulness of workers at MCH	62	51.7	7	5.8	51	42.5
Availability self choice contraceptives	46	38.33	10	8.3	64	53.3
Availability of vaccines	31	25.8	8	6.7	81	67.5
Technical ability of care & proper appointments of clients	49	40.8	5	4.16	66	55

Respectful caring and interpersonal relation during ANC and delivery services	67	55.84	10	8.33	43	35.83
Overall satisfaction of maternal and child health services	52	43.33	8	6.67	60	50

Source: own survey data (2019)

Factors Affecting the Customer Satisfaction with Health service Deliveries at Kara Health Center

Majority of customers complains with waiting time and problems at card room, thus 38.5% waited greater than ten minute and 29.9% waited less or equal to five minute and 24.9% of the customers waited six to ten minutes to get registration services or a card. Regarding services with the number of frequency of registration for a card and payment for it as the previous was lost 42.2% registered for a new card more than three times, 26.9% registered more than two times and 24.9% of the customers registered and paid for a card only two times. Concerning accuracy of dispensary services and availability of ordered drugs 37.2% were answering yes all, but the majority 54.15% answering no some only. In adequacy of health information provisions, explanations of procedures and consultancy health services 36.9% were claimed to yes all while 59.8% said no some only.

In aspects of maternal and child health care services 70% were saying no some only services related to availability of getting self choice contraceptives the clients interested in for their health problems and safety; while 25% were claimed to yes all. Availability of required vaccine drugs 35.8% clients were answering yes all while 57.5% answering no some only. Technical abilities and proper appointments for clients the majority of customers 64.2% claimed to no some only, the other less number 31.7% claimed to yes all.

The level of significance was conducted by the researcher whether the level of customers satisfaction had a relationship with explanatory variables at Kara health center. As a result there was statistically high relationship between waiting time to get a card and problems at card room, repeated registration and payments for a card, dispensary services and availability of ordered drugs; information provisions, explanations of procedures and consultancy about health care and services. All variables had p-value less than 0.005.

At maternal and child health service aspects also the variables of factors were statistically high significant with customer satisfaction such as availability of getting self choice contraceptives, availability of required vaccines, and technical ability of health workers and proper appointments. All p-values of these variables are lower than 0.005.

As chi-square calculated values to measure the association between categorical values was greater than critical value 3.84 at 5% level of significance and 1 degree of freedom in all cases; the null hypothesis can be rejected; and there appear a significant association between the categorical variables (Table 5 below).

TABLE 5 FACTORS AFFECTING CUSTOMER LEVEL OF SATISFACTION WITH HEALTH SERVICE DELIVERIES AT KARA HEALTH CENTER (N=301 FOR OPD AND N=120 FOR MCH)

Variables	Level of satisfaction		Total		X^2	p-value
	Satisfied	Dissatisfied	Count	%		
Waiting time to get a card					53.93	<0.0001
.≤ 5 min	62	28	90	29.9		
. 6-10 min	10	65	75	24.9		
.> 10 min	42	74	116	38.8		
Registration and payments for a card					43.14	<0.0001
. = 2	49	26	75	24.9		
.> 2	12	69	81	26.9		
. > 3	62	65	127	42.2		
Availability of ordered drugs					10.15	0.001
. Yes all	29	83	112	37.2		
. No some only	73	90	163	54.15		

Information provisions, explanations of procedures and consultancy services					15	0.0001
. Yes all	25	86	111	36.9		
.No some only	81	99	180	59.8		
Technical ability of care & proper appointments of clients					12.52	0.0004
.Yes all	7	30	37	30.8		
.No some only	42	36	78	65		
Availability of getting self choice contraceptives					9.5	0.002
. Yes all	5	25	30	25		
. No some only	41	43	84	70		
Availability vaccines for immunization					9	0.003
.Yes all	5	38	43	35.8		
. No some only	26	43	69	57.5		

Source: Own survey data (2019)

NB: * Statistically significant $p<0.05$. ** Statistically high significant $p<0.005$.

*The larger the value of X^2, the more likely is the distributions are significantly different.

Customer Level of Satisfaction with Pre- Medical Services at Gumbichu Health Center

Customer satisfaction level from availability of information where customers want to going in the health center was 51.36%. This related to personnel who would tell them the service room they want to going. It is linked to tangibles from SERVQUAL models. Customer level of satisfaction from availability of the sign which indicates the service rooms was 46.6%. This sign is basically tangibly standing where it could be seen for customers as they enter public service providing

organizations. Customer level of satisfaction from waiting time to get a card at registration room and problems associated with lost mini card was 38.1%. This is linked to tangibly and unavailability of computers with light in the service unit. This lowest percentage is sum of the three categories of customer satisfaction with waiting time to get a card. The satisfied customers 12.6% waiting less or equal to 5 minute, 3.4% of customers waiting 6-10 minutes, and 22.1% waiting greater than 10 minutes. The card room at Gumbichu health center also has had problems of adequate room size, its own recruited worker; it was given for different volunteer supportive staffs including guards and cleaner as official additional job at different occasions.

The satisfaction level from availability of original card from computer when client lost previous mini card was 46.94%. This relates to reliability of services from five tools of service quality models. The frequency of customers registered for a new card as their previous card was lost or unable to find was 18% registered and paid for new card two times, 4.42% registered and paid for card more than two times and 13% registered for more than three times. Customer level of satisfaction among eight indicators with pre-medical services which related to willingness and helpfulness of the personnel at the card room was 56.8%. It shows responsive assistance of the card room personnel. The satisfaction level from the courtesy and respect of the personnel at card room was 61.2%. This level of satisfaction at premedical service indicates ability of the personnel at card room to assure clients. This is assurance parts of the service quality tools. The overall level of customers satisfaction with premedical services at Gumbichu health center was 49.32% (Table 6 below).

TABLE 6 CUSTOMER LEVEL OF SATISFACTION WITH PRE-MEDICAL SERVICES AT GUMBICHU HEALTH CENTER (N=294 FOR OPD & MCH CLIENTS INCLUSIVE)

	Gumbichu health center					
	Satisfied		Neutral		Unsatisfied	
Variables	No.	%	No.	%	No.	%
Availability of information where customers are want to going in the health center	151	51.36	8	2.72	135	45.9
Availability of the sign that indicates the service rooms	137	46.6	5	1.7	152	51.7
The waiting time to get the card at registration room						
.≤5 min	37	12.6	6	2.04	74	25.2

.6-10 min	10	3.4	7	2.38	42	14.3
.>10 min	65	22.1	10	3.4	43	14.6
Availability of original card from computer when clients lost previous offered mini card	138	46.94	7	2.38	149	50.7
The frequency of customers registered for a new card as the previous was lost						
.=2	53	18	6	2.04	26	8.84
.>2	13	4.42	5	1.7	109	37
.>3	58	13	5	1.7	39	13.3
The willingness and helpfulness of personnel working at the card room	167	56.8	7	2.38	120	40.8
The courtesy/respect of the personnel at the card room	180	61.2	6	2.04	108	36.7
Overall level of satisfaction before getting to Pre-medical services	145	49.32	12	4.08	137	46.6

Source: Own survey data (2019)

Customer Level of Satisfaction with Different Components of Health Services at Gumbichu Health Center

The level of satisfaction from health workers service provision willingness and availability at service rooms was 62.58% among ten indicators of different components of health services. It is the highest level of satisfaction and related to responsiveness of health workers among service quality models. The level of satisfaction from adequacy of health information provisions, explanations of procedures and consultancy services was 34.35%. This shows empathy of health workers towards clients. The level of satisfaction from courtesy or respect of health workers during service provision was 59.9%. This indicator shows the extent of health workers ability to assure clients. The level satisfaction from confidentiality and privacy given to clients concerning health problems and service provided was 54.77%. This also indicates how health workers assure clients when it is in need.

The satisfaction level of clients from capacity of health center to solve client health questions and problems was 49.66%. This indicates health workers responsiveness to solve their problems promptly and to make their questions heard and solved. The satisfaction level with accessibility to latrine, cleanliness of service rooms and sanitation of health center environment was 50.68%. This indicator assesses that latrine availability at short distance from service room especially when some samples are required for laboratory examinations. It also indicates cleanliness of especial rooms such as emergency room, minor operation room, laboratory rooms and health center environment. Generally it assessed tangibility parts of service quality models respective to this study.

The level of satisfaction of customers from accuracy of dispensary services &availability of ordered drugs was 30.27% which is related to reliability and tangibility of the service quality tools. The level of satisfaction from well coming approaches and service rendered by laboratory service provider was 49.32%. This indicator relates to reliability and empathy from the service quality tools. On the same way the satisfaction level of customers from availability of ordered laboratory tests was 34.35%. This indicator belongs to tangibility from service quality measurements. The overall satisfaction level of customers for different components of health service deliveries at Kara health center was found to be 47.28%.

The maternal and child health level of satisfaction at maternal and child health department also was conducted independently based on the survey data from women of child bearing age who were above 18 years old using seven indicators. As a result, the satisfaction level of clients from attention and compassion of health workers giving to them during services provision was 33.9%. This indicator measures empathy of health workers towards clients. The satisfaction level of clients from willingness and helpfulness of workers at MCH was 32.2%. This indicator indicates responsiveness of health workers towards clients and measures readiness of the staff to provide prompt services at the department. The level of satisfaction from availability of self choice contraceptives 38.14 and availability of vaccines was 27.97%. These indicators relate to tangibility among service quality models and measures availability of contraceptives as woman prefer to her health and vaccines when she visits health center especially for child immunization.

The satisfaction level from technical ability of care & proper appointments of clients was 31.36%. This indicates ability of health workers to perform the promised and expected services accurately. It is related to the reliability of services. The satisfaction level of clients from respectful caring and interpersonal relation during ANC and delivery services was 59.32%. This indicator indicates ability to convey trust and confidence towards client through knowledgeable behavior especially in

case of pain and discomfort conditions. It shows assurance among service quality models. The overall satisfaction of maternal and child health services at MCH was 51.7%. This indicator purposely constructed for clients to measure all parts of the services at the department as a whole (Table 7) below.

TABLE 7 CUSTOMERLVEL OF SATISFACTION WITH DIFFERENT COMPONENTS OF HEALTH SERVICE DELIVERY AT GUMBICHU HEALTH CENTER (N=294 FOR OPD AND N=118 FOR MCH)

	Gumbichu health center					
	Satisfied		Neutral		Unsatisfied	
Variables	No.	%	No.	%	No.	%
Health workers service provision willingness and availability at service rooms	184	62.58	8	2.72	102	34.7
Adequacy of health information provisions, explanations of procedures and consultancy	101	34.35	10	3.4	183	62.24
Courtesy/ respect while providing services	176	59.9	15	5.1	103	35
Confidentiality and privacy about health problems and service provided	161	54.77	23	7.82	110	37.41
The ability of health center capacity to solve clients health questions &problems	146	49.66	9	3.06	139	47.28
Overall medical services of health workers	139	47.28	5	1.7	150	51.02
Welcoming approaches and service rendered by laboratory service provider	145	49.32	20	6.8	129	43.88
Availability of ordered laboratory tests	101	34.35	21	7.14	172	58.5
Accuracy of dispensary services and availability of ordered drugs	89	30.27	14	4.76	191	64.97
Accessibility to latrine, cleanliness of service rooms and sanitation of health center environment	149	50.68	4	1.36	141	47.96
Maternal and child health only questions						
Attention and compassion of health workers in service provisions	51	43.2	3	2.54	64	63.5
Willingness and helpfulness of health workers at MCH	53	44.9	4	3.39	61	51.7
Availability of self choice contraceptives	45	38.14	3	2.54	70	59.34

Availability of vaccines	33	27.97	4	3.39	81	68.64
Technical ability of care & proper appointments of clients	37	31.36	8	6.78	73	61.86
Respectful caring and interpersonal relation during ANC and delivery services	70	59.32	11	9.32	37	31.36
Overall satisfaction of maternal and child health	61	51.7	7	5.93	50	42.37

Source: own survey data (2019)

Factors Affecting Customer level of Satisfaction with Health Service Deliveries at Gumbichu Health Center

Majority of customers complaining with the waiting time and problems encountered at card room during health service utilization and 37.7% customers waited less or equal to five minute and 36.7% waited greater than ten minutes and 17.7% of the customers waited six to ten minutes to get registration services or a card. Regarding the number of frequency of registration for a card and payment for it as the previous mini card was lost 26.2% registered for a new card more than three times, 41.5% registered more than two times and 26.9% of the customers registered and paid for a card only two times. Concerning accuracy of dispensary services and availability of ordered drugs 32.65% were answering yes all, but 62.6% claimed no some only. Availability of ordered laboratory tests 22.8% claimed yes all while 70% said no some only. The adequacy of health information provisions, explanations of procedures and consultancy about health care and services 22.1% were claimed to yes all while 74.5 answering no some only.

In aspects of maternal and child health care services 67.8% saying no some only services related to availability of getting self choice contraceptives the clients interested in for their health problems and safety; while 29.7% claimed to yes all. Availability of required vaccine drugs 28.8% clients answering yes all while 67.8% were answering no some only. Technical abilities and proper appointments provided by health workers, the majority of customers 72.9% claimed to no some only, the other less number of customers 24.6 were claimed to yes all.

The level of significance was conducted by the researcher whether the level of customer satisfaction had a relationship with explanatory variables at Gumbichu health center. Based on the findings among variables of factors waiting time to get a card and problems at card room, repeated registration and payments for a card, dispensary services and availability of ordered drugs, availability of ordered laboratory tests; information provisions, explanations of procedures and consultancy about health care and services at outpatient level statistically high significant relationship with customer satisfaction. All p-values of these variables found to be <0.005.

At maternal and child health service also indicator such as availability of vaccine is high significant with customer satisfaction. On the other hand, availability of getting self choice contraceptives; and technical abilities of health workers and proper appointments at maternal and child health services had statistically significant relationship with customer satisfaction from health services.

As chi-square calculated values to measure the association between categorical values was greater than critical value 3.84 at 5% level of significance and 1 degree of freedom in all cases; the null hypothesis can be rejected; and there appear a significant association between the categorical variables (Table 8 below).

TABLE 8 FACTORS AFFECTING CUSTOMER LEVEL OF SATISFACTION WITH HEALTH SERVICE DELIVERIES AT GUMBICHU HEALTH CENTER (N=294 FOR OPD AND N=118 FOR MCH)

Variables	Level of satisfaction		Total		X^2	p-value
	Satisfied	Dissatisfied	Count	%		
Waiting time to get a card					29.24	<0.0001
.≤ 5 min	37	74	111	37.7		
. 6-10 min	10	42	52	17.7		
.> 10 min	65	43	108	36.7		
Registration and payments for card					71.7	<0.0001
. = 2	53	26	79	26.9		
. >2	13	109	122	41.5		
. >3	38	39	77	26.2		
Accuracy of dispensary services and availability of ordered drugs					8.1	0.004
. Yes all	20	76	96	32.65		
. No some only	69	115	184	62.6		
Availability of ordered lab. Test					8.1	0.004
. Yes all	15	52	67	22.8		
. No some only	86	120	206	70		

Information provisions, explanations of procedures and consultancy					10.7	0.001
. Yes all	12	53	65	22.1		
.No some only	89	130	219	74.5		
Availability of getting self choice contraceptives					7.7	0.005
. Yes all	7	28	35	29.7		
. No some only	38	42	80	67.8		
Availability of vaccines					9.5	0.002
.Yes all	3	31	34	28.8		
. No some only	30	50	80	67.8		
Technical ability and proper appointments					6	0.01
. Yes all	4	25	29	24.6		
. No some only	33	53	86	72.9		

Source: Own survey data (2019)

NB: * Statistically significant $p<0.05$. ** Statistically high significant $p<0.005$.

*The larger the value of X^2, the more likely is the distributions are significantly different.

Major Basic Health Extension Package Under-Performances at studied rural settings

As findings of the study, 96.6% of rural households did not have and use standardized latrine, 83.2% used open defecation practices, 97.6% had not proper solid and liquid waste management practices and its knowledge which is one component from 16 health extension packages; 81% rural households did not have separate animal and human dwellings, 79% did not access to clean, worm free and improved drinking water sources. These basic and essential public health factors highly contribute for the transmission of preventable communicable diseases and its burden is high among under-five years and leads child morbidity and mortality as could lead to diarrhea and other communicable diseases. This indicates that the burden of communicable diseases increased at rural settings, its exposure is high and its cost of treatment has increased household expenses at rural areas than at urban areas. So it is clearly showed that preventive health services is at substandard at rural areas, because incapability of national health policy implementation and health resource challenges (Table 9 below).

TABLE 9 MAJOR BASIC HEALTH EXTENSION PACKAGE UNDER-PERFORMANCES AT STUDIED RURAL SETTINGS FROM STUDIED RESPONDENTS

No.	Basic public health deficits and problems at rural settings	Gumbichu HC (n=294)	%	Kara HC (n=301)	%	Total (n=595)	%
1	Standardized latrine	283	96.3	292	97	575	96.6
2	Solid & liquid waste management	286	97.3	295	98	581	97.6
3	Improved water source	225	76.5	245	81.4	470	79
4	Separate human& animal dwellings	230	78.2	251	83.4	481	81
5	Open defecation	239	81.3	256	85	495	83.2

Source own survey Data (2019)

4.2. Service Delivery Standards of Health Centers

Based on in depth assessment, the health center general medical services have not had its own ambulatory services for severe and urgent diseases conditions and cases which need referral. The ambulance services have come from woreda health office through dialing of phone between health center heads and woreda health office heads by request. They were only two in numbers even at woreda level for all maternal and under five year child services. In case of network and light lost the life of the patient might have been in danger. And recently these ambulances became unresponsive and not recommended for cases other than maternal labour and under five- children illnesses. Moreover, the services of ENT, Dental, Eye and mental health and basic rehabilitative services was inadequate mainly due to unavailability of medical equipments, well trained and skilled personnel in the field. Even treatment services have been given by nurses and inadequate number of health officers. At standard level nurses are administrating drugs but not prescribers of drugs. The health centers have not had proper TB and leprosy service unit, HIV/ART service unit is not available, VCT/PMTCT service unit is not available. The HCT services have given in case of client requests and case suspiciousness at other service units.

As recommendations of the standards all service rooms have not had adequate light for 24 hours, water, ventilation, adequate medical equipments and furniture; isolation room for treatment of conditions that require isolation. The health centers also have not had proper cold protective waiting

room for outpatients, public telephone and office telephone, gender specific toilet, reception and recording area, room for minor procedures, utility room for cleaning and holding used equipments and disposing patient specimen, staff room for changing cloth; and also there was no adequate medical equipments for physical examination and to proceed some procedures. The written policies describing the responsibilities of nurses for nursing process was not available; and copies of developed nursing procedure manual had not made available; and there was not right applicable of nursing procedures in health centers as inpatient service was not offered and equipments for nursing procedures unavailable and insufficient.

The emergency service standards at rural health centers had not written protocols, sufficient equipments and largely has given wound care, injection services and minor surgery services altogether within a single room. As shortage of equipments prevailed in health centers, similar equipments were used for wound care and circumcision services. As a result diseases' cross transmission might be high among clients of the service users. The emergency services also had not written protocol for the management of urgent medical cases, hand washing facilities with water, consistent light source and ventilation.

At maternal and child health services level, the two health centers provide delivery and pregnancy related services for 24 hours in all days; and other reproductive health services for 8 hours in a day and for 5 days in a week. The prevailing problems at MCH department have been inadequate number of rooms with inadequate size and shortage of medical equipments and supplies, urgent referral system due to lack of own ambulances, adequately skilled and competent health professionals, cleaner for 24 hours and facilities like hand washing facilities with water in each room and generally it is at substandard. At standard level for example the health center had 3 separate rooms for delivery services, but at the two health centers only have one delivery room which also used for spontaneous and legal abortion services at the same time.

Laboratory services have not existed at Kara health center because of lack of electrification and adequate alternative power source with fuel. The laboratory services at Gumbichu health center also has provided services with shortages like laboratory tests, major equipments, reagents, 24 hours power supply, toilets, proper room numbers and size, hand washing facilities with adequate water supply, fire extinguishers in case of accidents. The pharmaceutical services of the health center also have a problem of storing drugs in a dispensary room instead of timely discarding and burning. And also have inadequate service providers; nurses were replaced in most cases as service providers, lack of installing fire-fighting equipment, non-computerized dispensing and registration system with

back up, neither customer satisfaction survey on pharmaceutical services and nor appropriate measures taken in accordance with survey findings.

The design and layout of health centers also was not as per the standard, lacks adequate waiting area, adequate card room size, counseling room, casher room, store room, adequate different types of trained workers; and adequate equipments and facilities including fire extinguisher as a whole, refrigerators, deep freezers ; hand washing facilities, consistent power supply, telephone, office furniture, internet services, computer and other necessary supplies were unavailable and at substandard in two health centers when assessed based on the 2012 minimum service standard of health centers released by federal ministry of health of Ethiopia.

4.3. Trends of Rural Health Center Service Delivery System

As attempted to describe under minimum service delivery standards of the health center in the previous sections rural drug prescribers and treatment givers have been nurses and health officers. However, as recommendations of service delivery standards of the health center no physician was available and assigned for rural health centers even for urban health centers in studied areas. This was crippling curative health services for decades in aspects of complicated maternal, child, infant and neonatal emergency cases. The inadequacy and continuous unavailability of essential drugs and alternative drug sources of pharmacy also put significant impact on maternal and child health services. Rural people buy drugs which was unavailable in health center from urban private pharmacies not immediately but after a days or on market days unless the case of client was life threatening. In addition to these many diagnostic kits and laboratory reagents has been never continuously available with nearest optional private medical laboratory services. Alternative source of light like generator availability with adequate fuel also influenced rural medical laboratory based treatment services. As electric light loss and returns took many days at rural areas not just as in urban settings put its own impact to provide laboratory based treatment services.

In aspects of preventive health services one health extension worker served one Kebele under the assistance of one health worker from health center through weekly supportive supervision. The supportive supervision from health center has been very occasional and interrupted in most cases. She has worked through inappropriate road systems to give maternal and child immunizations and other preventive health services without well trained or incentivized and assigned assistant. Boring with such activities, when she got other opportunity and personal growth by her effort, she released the job. In such conditions that kebele remained uncovered by any health worker for regular and

continuous different components of preventive health services. Health extension workers have responsibility and accountability for preventive and some selected treatment parts of health center activities under which they were assigned and tailored to health center with network governance system. As such they reported the result of activities weekly and monthly for their respective health center. In this case the failure of performances of the health post means that the failure of the health center performances.

4.4. Challenges to Rural Health Center Quality Health Service Deliveries

The long term persistent curative health services at rural health center is inadequate as it has been challenged by inadequate number of well qualified and skilled human resources allocations and periodical turn-over and brain drain; inability to attach health center service delivery system with basic quality service supporting technologies such as computer based services at card room, dispensary room and maternal and child health services.

Facilities like regular availability of light for 24 hours (alternative power source), improved water source for health center and in its each service units, telephone, availability and enough sized service units, inconsistent supply of essential drugs, alternative drug source or community pharmacy, shortage of key medical equipments such as sterilizers and technicians for their maintenance at time of stopping functions; transportation vehicles for urgent activities and ambulances for urgent emergency cases referral to higher hospitals has been the major challenges which affects quality health service delivery of rural health centers at large. Shortage of basic diagnostic laboratory equipments and reagents, vaccine drugs and facilities for inpatient services including service units largely affect rural health center service delivery system quality and associated customer satisfaction at studied rural health centers.

In aspects of preventive health services poor coordination and integration between health extension workers and health center health workforces or supportive supervisors due to lack of improved dwellings and facilities for health extension workers at health posts has challenged regular and consistent delivery of preventive health services. Inadequate allocations of health resources for health centers especially inadequacy of supportive supervisors per health post with unavailability of transportation services has challenged quality preventive health services through outreach programs and regular weekly supportive supervision programs.

The inadequate participation of other sectors and potential health stakeholders in the areas of key preventive health services such as improved latrine construction, improved drinking water supply, proper waste management, standardize living house excluding home animals has created open

window for the chance of rural people exposure for preventable communicable diseases. This also affects rural health centers preventive health service delivery system effectiveness, efficiency and quality in the process of tailored with health extension workers.

Health center Directors response on: Do you give computer supported services at card room to save clients medical information, to protect individual card loss and data for continues and quality health care services?

As per interview conducted and personal observation of the researcher, the two health centers has not provided computer supported services at card room in order to find clients card for important medical history and to make easy service provision at the time of revisits of the clients. The client registered and received card at card room was given the mini identity card for latter visits which consists his/her address, full name and medical card number. As rural people had not awareness, education and are inattentive to keep it safely and properly, it might be lost easily or washed with clothes. The client paid the cost of this identity card together with drugs. However, when this identity card accidentally lost or washed with clothes and come for revisits; he/she is obliged to pay again for a new card as a new visit unless returns back to home to find it without getting services. This has a significant impact on quality health services: The patient card could not be found in card room means that the past history of the patient also lost, disturbs interaction of clients and service providers, repeated cost for a card and related arguments with workers dissatisfy the clients. There has been conditions when a customer said "my card had about many written papers in it before, why I am registered for a new card and paid for it again as a new customer?."

Health center Directors response on: If your answer for question number one is no, what are challenges that protects you to use computer in card room?

The factors unable to use computer in card room and other service units except in directors' office; as per interview suggested was related to inadequate budget and low financial allocations from local government. The health center also has not had internal revenue sources from agricultural products or contracting farm lands like schools.

Health center Directors response on: Whether or not rural health centers have regular, continuous and timely essential drug supply and adequacy of other drug supply?

As per interview conducted rural health centers also in problem with regular and consistent supply of essential and other drug supply. This problem has observed not only in rural health centers and but also in health posts with more frequency. Health extension workers have encountered problems to treat pneumonia and diarrhea cases in under-five children. Treatable cases of under-five children

referred to hospitals from health centers. Chronic cases of Asthma and Epilepsy patients have been recommended to buy drugs from urban pharmacy or private urban clinics with high costs.

Health center Directors response on: Does the health center and health posts under it have functional generator with fuel as alternative light source for electric light?

As per interview and the researcher observations the health centers has not had functional generator with adequate budget for fuel for long years. This has put impacts in conducting institutional delivery, to treat severely sick patients especially during night, to sterilize used medical equipments when electric light lost or unavailable even to organize and report health activity performances using computer. Kara health center has generator power source but used only when compile weekly and monthly reports because of shortage of fuel and inadequate budget allocation for this purpose. Gumbichu health center has electricity but the loss of electric light at rural small towns has taken much more days and frequencies than urban areas. Hence, the two health centers more frequently compiled their periodical reports and other important activities at woreda health offices.

Health center Directors response on: Do you think that rural health center has adequate budget for pharmaceutical supplies, medical equipments and laboratory reagents?

The health center and health posts under its catchments in the study area not only in shortage of power supply, adequate source of water, telephone, transport vehicles and dwellings for on call health workers and health extension workers but also pharmaceutical supplies, medical equipments and laboratory reagents. Shortage of laboratory reagents at Gumbichu health center and complete unavailability of medical laboratory services at Kara health center to provide quality health services has affected curative health service provisions for years. Kara health center has been without electrification and medical laboratory services for many years. This revealed that how the equity, accessibility, comprehensive and quality health care praised and reported by federal ministry of health in all comprised broad deficiencies at primary level of health care service delivery system especially at rural health centers. As per interview directors suggested it needs government intervention especially local government should be committed to release and allocate financial resources for rural health centers and health posts to solve these persistent health infrastructure and internal facility shortcomings.

Health center Directors response on: What total budget was allocated for your health center in current budget year 2018/2019 to accomplish curative and preventive health services effectively? Is it adequate?

The recurrent budget allocated annually for the two health centers as per interview was insufficient; and the recurrent budget for Kara health center and Gumbichu health center in 2018/19 budget year was 1,390, 170 ETB and 1, 543,469 ETB respectively. This figure is very small and about 3:20 proportion when compared to Arada sub-city urban health center. The recurrent budget allocated for Arada sub-city health center in Addis Ababa in the same year was 10,029,400 ETB with its capital budget 1,000,000 ETB. As urban health center, the two studied rural health centers did not have allocated capital budget in studied year. Neither recurrent budget nor any capital budget was allocated for health posts under rural health centers independently. As shortage of budget was prevailing health workers and health extension workers had not have any motivational incentives for rural outreach programs from government budget. To assign and employ qualified skilled health workers adequately and to enhance standards of service deliveries by expanding additional rooms or service units obviously budget shortage has been one factor; directly and indirectly affected health service accessibility, equity, service quality and customer satisfactions.

The sharing of Gumbichu and Kara health centers from internal revenue to total woreda allocated budget was 24.03% and 21.3% respectively. The major source of health centers internal budgeting was from daily drug sold revenues and curative health care services. As per day patient flow was limited internal revenue raising capacity of the health centers has not been strong when compared to urban health facilities. This is mainly because clients prefer to get quality treatment with quality drugs at urban private clinics in most cases. In line of this additional room or fences construction and maintenance of health facilities became difficult to carry out; and hence service provision structures has been inappropriate and at substandard and institutional capacity of health facilities for quality health services were at low level in all dimensions. The problems behind these were: First, inadequate attention and commitment from local governments to improve standards of local health facilities by allocating sufficient budget. Second, the low level of private partners and health stakeholders to participate towards problematic areas of key health services at rural settings.

Health center Directors response on: Do health extension workers and health center workers have adequate incentives when they have been going rural kebeles for health preventive and promotion enhancing services through outreach programs?

As it was understood from per interview conducted at two health centers there was limited financial allocations for rural health centers; rural health centers health workers and health extension workers had no incentives when they have been going for outreach programs. These health workers sometimes coordinated and worked together in rural kebele villages to enhance the achievements of

different components of preventive health services, health promotions and awareness creation among communities. But the allocated budget for their motivational incentive has been insufficient especially for health extension workers nothing was paid except in the occasion of campaigns.

Health center Directors response on: What are solutions do you think to overcome sanitation conditions of Gumbichu town and Kara village near your health center people urinate on public streets and market places?

Public health services and prevention of communicable diseases were not well addressed at rural health centers. Even the villages of Kara and Gumbichu health centers have been in problem of high environmental sanitation. People urinate faced towards health centers fence, on public streets and at market places. As it was understood the situations from observation and per interview conducted the root cause of the problem has been absence of public latrine construction through community participation. The best solution for the problems as per interview was constructing standardized latrines at market places through community participation as well as making all households open free defecations (ODF) as much as possible through strong governmental or private organization interventions and needs government calling for and collaborations with potential health stakeholders.

Health center Directors response on: Do you have the practices to supervise and regulate common food items in private food houses, meat shops, slaughtering sites and drugs sold in private shops by establishing appropriate committees?

As per interview private food selling houses, meat shops, slaughtering sites and drug sold in private shops which has been put with insecticides and pesticides in the same room was not regulated, supervised and controlled. The health centers did not have established supervisory and regulatory committees for oversight and control of these unfair activities. The woreda health office work forces have not had the practices and trends for these problems to be solved at early stage by establishing appropriate committee and collaborating with local administrators.

The environmental health and safety which has significant implications for preventive health to combat major communicable diseases has not got adequate attention. Hence, its problem and impacts has been exacerbated mainly due to unavailability of focal person or assigned trained worker atstudied rural health centers who coordinate, supervise and integrate environmental health activities with other health performances in the sense of ownership. The absence of such strong interventions for environmental sanitation, safety and regulatory services was created ways for communicable diseases transmissions and its burdens to be high at rural settings. Majority of rural

people were in trends of fighting communicable diseases through treatment rather than preventing it through disease prevention and health promotion measures by developing safe and healthier environment which is crucial for human life.

Health center Directors response on: What are major factors affecting implementation of preventive health service packages in kebeles under your health center in accordance with national preventive health policy?

The main factors affecting implementation of preventive health service packages in kebeles under the two health centers has been similar and these include: Inadequate skilled health workers workforces, uncommitted local administration and woreda health offices to intervene the problem, weak legal frameworks and absence of designing appropriate strategies and follow up for health policy implementations from higher health offices work forces. As a result the life of people in rural environment was at risk for respiratory and other communicable diseases especially for under-five children, old age people and poor wealth quintiles household families.

Health center Directors response on: Which health policy formulation or rules do you think need to be improved as your recommendation for more effective health service delivery?

At the time of in depth table interview with health centers directors they also suggested about national health policy and primary health care services at rural area. As such the primary health care service delivery system is better to be improved by health policy makers and governments. There have been many poor rural women, neonates and children who have been in problem of inaccessibility and underutilization of basic health services in regular and consistent way. All health posts in kebeles better to be upgraded to health center and hence health extension workers staffed, controlled, managed and governed by respective health center. In line with this the health center would be per kebele instead of health post per kebele with adequate health workers and health extension workers. This is a suitable strategy to address maternal, children, neonatal, old age and disabled people health care services which has been inadequate in today health service delivery system because of distance and inappropriate road and transportation systems. This type of health policy reform will also enables to ensure ministry of public health theoretical advocated health services for optimal implementation of basic health frameworks implementation effectiveness such as equity, accessibility, consistent, regular, comprehensiveness, universal health coverage and services. Moreover, plays a significant role to reduce maternal and child morbidity and mortality.

Focus group participants' response on: Do you have health development army who assists you in community outreach services? Do they have adequate health trainings and incentives?

As in depth group discussions with health extension workers, supportive supervisors from health centers to health post**s** and kebele managers no health development army and volunteers who assist health extension workers in monthly outreach program. The woreda health office has not prepared health development army work forces with adequate trainings and incentives. Local kebele government members and councils are also expected and need incentives from health extension workers to mobilize the communities for health services and health conferences. They resist from health extension workers supporting and assisting unless incentives paid for them.

Focus group participants' response on: What are problems and challenges in screening all forms of TB and give treatment services; screening under five year malnourished children and to give regular treatment services at health post?

In screening all forms of TB and malnourished under-five children and to give treatment services in health post though widely stated and recommended at national health policy level; at practical implementation level there was inadequate number of health extension workers per health post with medical facilities. In treatment services of all forms of TB and under-five malnourished children lack of TB room, inadequate trainings with supply of drugs and plump net are some the factors affecting service provisions. Since TB patients took their medicines every day at morning and per day and health extension workers could not available every day at health posts. As a result, it was recommended all TB patients to follow their treatment at health center. This made some patients from remote kebeles to rent living home around health center until completion of their treatment exposing these clients for additional and unnecessary costs.

Focus group participants' response on: What are problems and challenges in health post to conduct clean and skilled delivery services by health extension workers?

As try to understand from group discussions to conduct any delivery services at health post there has been shortage of medical equipments and sufficient room appropriate for delivery services. There has been also inadequate supply of water, absence of electrification, inadequate trainings and competence among some health extension workers. As result rural pregnant women with inappropriate transportation and road system especially who found distantly from health centers has given birth at home, conducted by unskilled village neighbors or relatives. The health workers know nothing about the occurrence of delivery, postnatal care and neonatal survival or death.

Focus group participant responses' on: What are problems and challenges in health post to give curative treatment services such as for pneumonia and acute diarrhea for under-five children as national health policy recommendations?

To give treatment for pneumonia and acute diarrhea diseases for under-five children at health posts all extension workers had sufficient training, but the problem has been inconsistent supply of essential drugs for these services. The unavailability of living home for health extension workers was also other problem together with inadequate number of health extension workers per kebele. Collaborative preventive health service provisions by extension workers and health center health workforces for the rural people have been at the marginal level or at substandard. The problem has been also exacerbated by being one extension worker per kebele and her completely absent on some

days, inadequate supportive supervision from health center, lack of motivational incentives, unanswered health extension workers which is related to democratic rights; enforcement and supporting false reports of health activities from higher woreda officials.

Focus group participant responses' on: What are the factors protect health extension workers to conduct HIV counseling and testing at health posts?

As broad group discussions, health extension workers also did not carry out any HIV/AIDS services except sending clients to health centers. They did not provide even HIV testing and counseling services. Shortage of diagnostic kits, supplies and woreda permission are the reason as they were suggested. Public health service provisions at health posts and community health services at village level had defects and poor. Thus, distant rural people could not utilize these health services in line of equity, accessibility and consistence health services. As HIV testing and counseling services was not given at health posts level and ART services did not provided at rural health centers level exposed rural HIV/AIDS patients for unnecessary costs to follow their services especially their treatment services at urban health centers or other higher health facilities.

4.5. An Overview of Wuchale Woreda Health Sector

4.5.1. Governance and Regulation of Wuchale Woreda Health Sector Management System

Before 2002, all woreda health office activities were carried out almost by one person who was assigned as head of woreda health office. He/she was sharing workloads to nearest clinic heads and workers. At that time today existing rural health centers and urban health center all were at clinic level and was not upgraded to health centers. The woreda health offices encountered shortage of human power to function properly and to supervise, coordinate and support rural health facilities. Even the management committee was established comprising clinic heads including rural clinic heads. The clinic heads were not only used as members of committees but some were as accountants, some as purchaser and some as salary payer health sector workers in the woreda.

After 2003 and currently the health office of Wuchale woreda health has had at least one expert at each department of woreda health office, one cabinet and vice cabinet, one human resource head with assistant, HIMS worker especially since 2010. The health centers governed by health center directors appointed by woreda health office from health center health workers based on the ruling party political competence and loyalty especially since clinics were upgraded to health centers around 2008. Now one human resource responsible person is appointed to all health centers based

on experience and level of education. The health extension workers have managed by respective kebele managers.

Despite some structural changes and human resource allocation improvements observed after clinics were upgraded to health centers; network governance among woreda health office, health centers and health posts still at low level as there have been inappropriate basic infrastructures and shortage of health resources among these organizations. To enhance woreda health sector performances and services until three years a back there were continuous supportive supervision, one expert from woreda health office to supervise and provide technical support for the health center. And at least one health worker from health center to offer supportive supervision and technical assistant to one health post in kebele. Based on the result observed and performance of activities, weekly feedback was given for health centers from woreda health offices and for health posts from individual health center supportive supervisors.

All health center directors, health extension workers and woreda experts and heads had meeting every two weeks or in a month once depends on availability of incentives at woreda level. The purpose was for health activities monitoring and evaluation, discussing the strengths and weaknesses and to put ways of improving health activities that was result based performances. At that time rural health preventive health extension package performances were on good position at each household of the community and remarkable results were achieved.

After three years a back the above good trends and practices highly reduced as political conflicts were uprising all over the country. The constructed and maintained latrines were also some closed and some became out of use and completely depreciated. The commitment and motivation of health workers including health extension workers and woreda supervisors also never so strong as previous years to enhance components of preventive health and promotion health services at rural settings. The intersectoral collaborations to enhance health activity performances, periodical training and provision of awards for model households showed ceased and consequently resulted in a decrease of preventive health performances at rural kebeles.

4.6. Specific Health Service Delivery Situational Analysis at Selected Rural Health Centers

4.6.1 Family Planning

Family planning is defined as the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births (Alewiya, M., 2017). Family planning is profoundly important for maternal and child health and a key element in upholding reproductive rights. According to (EPHI, 2014) the use of contraceptive methods to plan families may be desirable for many reasons including the following: Couples may wish to limit the size of their families or delay desired pregnancies; spacing births benefits for maternal and child health improvements. Studies have shown that spacing births at least two to three years apart contributes significantly to decreasing infant mortality; and preventing pregnancies in women with chronic or acute illnesses that may make pregnancy more risky such as tuberculosis, heart diseases, diabetes mellitus and some STIs including HIV/AIDS (Govindasamy et al., 1993; Rustain, 2000).

The unmet need of family planning in Ethiopia is gradually declining from 36% in 2000 to 25% in 2010 (CSA, 2011). Though Ethiopia assert a contraceptive prevalence of 58%; the identified gap in service quality regarding different aspects of family planning service provision includes inadequate medical equipment and supplies, providers were not complying with the guideline and had no enough number of trained staff, low IEC material utilization for consultation (Alewiya,2017).

At studied health centers family planning services has been mostly in the form of pills and injection forms which client more interested in to utilize. Before five years implanone availability was increased and widely introduced at health centers by giving training for a few health workers; but women have been complaining as it was creating much discomfort and pain within a few months. As a result women who inserted implanone methods of family planning provide complaints to remove it after insertion and prefer to get injection form of family planning.

Family planning health services at studied health centers influenced and affected by some factors including inadequate supply of contraceptives and diagnostic kits, inadequate commitment of health workers and trained personnel to give regular and consistent services especially in removing implanone when needs and problems araised, poor recording and management of clients' data including their card using computer based electronic system at card room and service room.

4.6.2. Maternal Health Care

The risk of a woman in developing country dying from a maternal- related cause during her life time is about 33 times higher compared to a woman living in a developed country (CSA & ICF, 2016). Ethiopia is one of the countries that have the highest maternal mortality rates in the world in which about seven women die during pregnancy, child birth, or within two months of birth (Zeritu et al., 2017). As WHO reports, 32% of women had at least four ANC visits during their last pregnancy, while 37% of women in Ethiopia had no ANC visits. About 41% of rural women and 10% of urban women had no ANC visits respectively (CSA, 2016).

Health care services during pregnancy and after delivery are important for the survival and after delivery are important for the survival and well being of both the mother and the infant. As widely emphasized on literature, skilled care during pregnancy, child birth, and the postpartum period are important interventions in reducing maternal and neonatal morbidity and mortality.

To reduce maternal deaths, all women should need to access high quality delivery care with at least three key elements: skilled care at birth, emergency obstetric care in case of complications and a functioning referral system. Despite this the county assessment revealed that lack of infrastructure, shortage of human resource, lack of equipment, low partograph use and poor service quality during labor and delivery were observed at all levels of public health facilities (Zeritu. et al., 2017).

Women of reproductive age are especially also vulnerable to chronic energy deficiency and malnutrition due to low dietary intake, inequitable distribution of food within the household, improper food storage and preparation, dietary taboos, infectious diseases, and inadequate care practices. During pregnancy, women are at a higher risk of anemia due to an increase in blood volume. Severe anemia can put both the mother and the baby in danger through increased risk of blood loss during labour, preterm delivery, low birth weight and per natal mortality. To prevent anemia, pregnant women advised to take iron tablets for 90 days or more during their most recent pregnancy. Standard guidelines for ANC services in Ethiopia emphasize that every pregnant mother should receive ANC from a skilled provider that includes a thorough physical examination, blood tests for infection screening and anemia, a urine test, tetanus toxoid injections, iron and folate supplements, and deworming medications (CSA, 2016).

At studied health centers the major factors influencing ANC service utilization was distance from the health centers, low awareness towards the service, inconsistent supply of vaccines and drugs, inadequate medical equipments and service room, unavailability of tetanus vaccines at the time of

visit or demand; inadequate supply and unavailability of diagnostic tests, inappropriate appointments that means appointing mothers on weekends without readiness of services, inadequate access to pregnant mothers and counseling services during outreach by health workers work forces including health extension workers. As a result many women in rural areas unable to be accessed regular services ANC1 to ANC4 and consequently would give births at home. As many births took place at home, postnatal care service has been poor at rural health centers and neonatal death was unrecognized and unreported in most cases.

It was also recognized that rural health centers enforced mothers to get non-curative health services at health posts especially immunizations and family planning services without sufficient allocations of resources and adequate functioning of health posts; whereas mothers complain that health extension workers have resided in urban areas and the services they provided for them has been in very irregular and inconsistent manner; and in some cases completely interrupted.

4.6.3 Child Health Care

In an effort to improve standard of child health services, WHO and other agencies developed the Integrated Management of Child Illness (IMCI) strategy. This strategy advocates using every visit to a health care provider as an opportunity, not only to conduct a full assessment of the child's current health and possible underlying problems but also to provide interventions such as vaccination that can prevent illness or minimize its progression (EPHI, 2016). The IMCI strategy aims to reduce morbidity and mortality among children under age five years through improving health systems including equipment, supplies, organization of work and referral systems.

In Ethiopia, Integrated Management of Newborn and Child Illness (IMNCI) is currently being delivered through health centers and some hospitals. At health post level it is referred as integrated community case management (ICCM), mainly focusing community management of pneumonia, diarrhea, malaria and severe acute uncomplicated malnutrition and referral for severe cases (EPHI, 2016). Information on child health and survival can help policy makers and programme managers assess the efficacy of current strategies, formulate appropriate interventions to prevent deaths from child hood illness and improve the health of children in the country.

According to (CSA, 2016) in Ethiopia 88 in 1,000 children under age 5 die before their fifth birth day. Acute respiratory infection particularly pneumonia is one of the leading causes of morbidity and mortality that accounts for 18% of deaths (WHO, 2013). Improving early care is a key strategy for early diagnosis and treatment. Diarrhea is the other one of the major contributors to deaths for

under age 5 children in Ethiopia. It contributes more than one in every ten (13%) child deaths in Ethiopia (WHO, 2014). The prevalence of diarrhea is slightly higher for children in households with unimproved sanitation than for children in households with improved sanitation; and it is lower among children whose mothers have more than a secondary education than among children whose mothers have a secondary or less education (CSA, 2016). The levels of child mortality are worsened particularly by poverty, inadequate maternal education, lack of safe water supply, sanitation, high fertility and inadequate birth spacing (Tekuamework, 2016).

The other important health problem in the under-five age children in Ethiopia is malnutrition and its complications. As research showed stunting (low height for age) is a sign of chronic undernutrition that reflects failure to receive adequate nutrition over a long period. Stunting can also be affected by recurrent and chronic illness. It reflects the cumulative effects of undernutrition and infection since birth and even prior to birth. Wasting (low weight-for-height) is a measure of acute undernutrition that represents the failure to receive adequate nutrition in the period immediately before assessment. Wasting may result from inadequate food intake or from a recent episode of illness that caused weight loss (CSA, 2016).

At study area the low number of health extension workers found under health center and shortage of health workers in health center to carry out malnourished children screening activities, case detection and providing nutritional advice to mothers through outreach program largely observed at studied rural settings. The affected children were come to health facilities when the malnourished case has been worsened. The inadequate and inconsistent supply of essential drugs for child illness, insufficiency and interrupted supply of modern nutrition for malnourished children, delay for treatment and inappropriate referral system due to shortage of ambulance at the woreda level and absence at health center level, clients being so far from health centers; competence and ability level of health workers to detect the caseare among major contributing factors for child morbidity and mortality at rural health centers. The poor sanitation conditions of rural environment, hygienic matters of care givers, food feeders, food preparation techniques and quality matters, quality of dwelling houses which is highly related to standards of living and household wealth quintiles play a significant role in scaling up child morbidity and mortality at rural settings.

4.6.4 Delivery and Newborn Care

Increasing institutional deliveries is important for reducing maternal and neonatal mortality. However, clients access to health facilities in rural areas is more difficult than in urban areas

because of inappropriate and long distance. Although institutional delivery has been promoted in Ethiopia, home delivery is still common, primarily in hard-to-reach areas. Women who resided in rural areas and with lower wealth index were at less advantage to deliver at health facilities and receive postnatal care; different studies showed that utilization of institutional delivery care service was significantly associated with place of residence and transportation convenience to health facilities (Asrat & Mengistu, 2018).

At studied health centers inaccessibility, and the lack of appropriate transportation with inappropriate roads to nearest health center affects institutional delivery and early newborn care to be succeeded. Women who have had skilled delivery practices and attendant during their birth usually concentrated or located relatively closer to a health center having better and appropriate transportation system to reach the health center. The accessibility and quality of services during antenatal care could be among the factors attracting women to give births at health centers under attendant of skilled health professionals.

Neonatal deaths and stillbirths stem from poor maternal health, inadequate care during pregnancy, inappropriate management of complications during pregnancy and delivery, poor hygiene during delivery and the first critical hours after birth, and lack of newborn care. Several factors women's status in society, their nutritional status at the time of conception, early child bearing, too many closely spaced pregnancies are affecting neonatal mortality. Moreover, harmful practices such as inadequate cord care, letting the baby wet and cold, discarding colostrums and feeding other food are deeply rooted in the cultural fabric of societies and interact in ways with neonatal mortality that are not always clearly understood (Muluken, 2012).

Neonatal mortality rate is high in rural areas as linked with high number of home delivery, mainly assisted by unskilled family members and insufficient conditions to access for medical care services. The inadequate number of health extension workers at rural health posts and health workers in respective health center with poor coordination and integration between these health workforces to carry out social mobilization and advocacy, information education communication through regular outreach programs in order to change attitudes of mothers and the community to accustomed institutional delivery are also among contributing factors for home delivery and poor neonatal care services. The newborn health, morbidity and mortality at rural settings also highly associated with poor standards of living manifested by poor housing conditions which exposes the newborn to extreme colds at night leading to acute upper respiratory infection and severe

pneumonia. It also related to poor hygienic conditions in process of attending delivery at home, maternal health and nutritional status during pregnancy and after delivery.

4.6.5 Postnatal Care

A large proportion of maternal and neonatal deaths occur during the first 24 hours after delivery. For both the mother and infant prompt postnatal care is important for treating complications that a rise from delivery and providing the mother with important information on caring for herself and her baby. According to (CSA, 2016) among women age 15-49 giving birth in the 2 years before the survey, 17% had a postnatal check during the first 2 days after birth. Four in five women (81%) did not receive a postnatal check. And (CSA, 2016) recognized that women who delivered in a health facility were much more likely to receive a postnatal health check within 2 days of delivery than those who delivered elsewhere; fourty-five percent of urban women received a postnatal check-up within 2 days compared to 13% of rural women.

The first 48 hours of life is a critical phase in the lives of newborn babies and a period in which many neonatal deaths occur. Lack of postnatal health checks during this period can delay the identification of newborn complications and the initiation of appropriate care and treatment. In Ethiopia studies showed that only 13% of newborns had a postnatal check within the first 2 days after birth, while 86% received no postnatal check-up (CSA, 2016).

At rural setting of study area as many women have given births at home and only a few pregnant women conducted at health centers by skilled health workers the chance of women getting postnatal care in health centers has been very low. Furthermore, even those who would give births at health centers returned to their home and never long waited in health center more than six hours after delivery despite complications may be encountered at home. After delivery rural women did not have the habit of visiting health center rather they would use village traditional medicines unless the problem has developed to severe cases or life threatening illnesses.

The most reasonable challenges for low performances of postnatal care at rural health centers was that women found remote and inappropriate distance from health centers, inadequate transportation system, insufficient organization of postnatal care services at health posts, low awareness of the services, uncomfortable and unhygienic postnatal care service rooms at health centers and cultural beliefs among societies.

4.6.6 Immunization

The Expanded Programme for Immunization (EPI) in Ethiopia, launched in1980 has been one of the core priorities in the past Health Sector Development Programmes (HSDPs) and the current Health Sector Transformation Plan (FMoH, 2015). The country has mobilized women development armies or volunteers, health extension workers, and health facilities to deliver its immunization services. Improved district planning and management were initiated in 2011 with a goal of reaching every district; and also stationary, outreach and mobile are the three important service delivery platforms for vaccination services. Child immunization is one of the most cost-effective health interventions, providing protection to children against vaccine-preventable diseases (EPHI, 2014).

The government of Ethiopia introduced the Pneumococcal Conjugate Vaccine (PCV) and monovalent human Rota virus vaccine (RV) into the national infant immunization programme in November 2011 and October 2012 respectively. The PCV protects against streptococcus pneumonia bacteria which cause severe pneumonia, meningitis and other illness. Rota Virus is a virus that causes gastroenteritis, an inflammation of the stomach and intestines. If left untreated, Rota-virus can lead to severe dehydration and death.

Child vaccination has been well recognized and understood activities by families than any other maternal and child health services at rural health centers. But the challenge is that the activity has performed by inadequate number of health extension workers at least every month till the child receives third round of the immunization. Measles immunization is given at the age of child reaches 9 months. As health extension worker per kebele might be one and it has been big challenge to access all children in all villages under her kebele. Moreover, no health development army, volunteers and women development army who incentivized, got training and volunteer to assist health extension workers in bringing vaccine drugs from health centers in the morning and then mobilizing communities towards immunization sites.

The other problem most rural women provide as complaining is that shortage of vaccine drugs at health centers, unavailability of health extension workers at health posts at the time of women visit for the services, inconsistent outreach practices for the services, multiple appointments at health center without availability of vaccine drugs for the services and low technical ability and competence in giving services related to level of education, trainings and experience.

4.6.7 Adolescent and Reproductive Health

Adolescents in Ethiopia are limited access to sexual and reproductive health information as well as quality adolescent and youth friendly reproductive health services. Despite of the high rate of sexual and reproductive health problems; the access of acceptable sexual and reproductive health services to adolescents is very low. As some literatures indicated, some of the factors contributing to the low access are low level of health knowledge, inadequate knowledge of adolescents about availability of reproductive health services in the facility, poor staff handling, unfavorable facility organization, socio economic factors and unfavorable attitude of youth towards the behavior of the service providers (Aklile, 2018).

Contraception is critical to ensuring the health and well being of all sexually active youth in addition to improving their opportunities for education and productive livelihoods (Fikre et al., 2017). The highest unmet need for family planning in 2011 EDHS was among the late adolescent age group 15-19 years, indicating the need to further strengthen adolescent reproductive health programs. Helping young persons and especially adolescents to avoid unintended pregnancies reduces the adverse consequences of early child bearing risks; with concomitant savings in maternal and child health care; enhances young women's education and economic opportunities; and reduces gender inequality and poverty (Fikre et al., 2017).

At studied health centers adolescent reproductive health services has not properly provided and well introduced. The service providing rooms were in shortage, its service implementation was unplanned and unexecuted; as a result, the advocacy, communication and social mobilization towards this service was at very low level as well as communities awareness toward the services was very poor. Unwanted pregnancy among young girls at different levels especially at high school levels which is directly leading to intention of self inflicted abortion mostly due to insufficient expansion of adolescent and youth friendly services at rural health facilities. The consequences of unwanted pregnancy and intended abortion by itself are the cause of many physiological and psychological health problems of young females. It was paramount when young adolescent women have visited health facilities in rural areas and provided requests for medications for abortion which is illegal and requires specific criteria and formalities to carry out in public health facilities.

4.6.8 Disease Prevention and Control

This section presents disease prevention and the activities carried out to prevent and control the prevalence and transmission of certain main communicable diseases such as HIV/AIDS and Tuberculosis with situational analysis as a general at national level and specifically at studied rural settings. It gives short and brief explanation for some major communicable and preventable diseases which are frequently regular activities of health centers at studied rural settings and mechanisms and ways of service delivery addressing and challenges. It also provides brief discussions and situational analysis for hygiene and environmental sanitation services which is the main triggering factors for communicable diseases transmissions and burdens.

4.6.8.1 Prevention and Control of HIV/AIDS and other STIs

The prevalence rate of HIV/AIDS in Ethiopia is 2.4% which is low compared with other Sub-Saharan African countries, and there are 1.1 million people living with HIV. The HIV prevalence rate exhibits a marked variation between urban and rural populations at 7.7% and 0.9% respectively (FMoH, 2015). In Ethiopia according to (CSA, 2016), 49% of women and 69% of men know that consistent use and having sex with only one uninfected partner can reduce the risk of HIV. In addition, 69% of women and 81% of men identified limiting sexual intercourse to one uninfected partner with no other partners can reduce the risk of HIV.

Increasing the level of general knowledge about transmission of HIV from mother to child and reducing the risk of transmission by using antiretroviral drugs are critical in reducing mother to child transmission (MTCT) of HIV. Widespread stigma and discrimination in a population can adversely affect people's willingness to be tested as well as their initiation of and adherence to antiretroviral therapy (ART). Thus reduction of stigma and discrimination in population are important indicators the success of programs that target HIV/AIDS prevention and control (CSA, 2016).

Given that most HIV infection in Ethiopia are acquired through heterosexual intercourse, information on the number of sexual partners and use of safe sex practices is important in designing and monitoring programmes that control the spread of HIV (CSA , 2016). Further efforts that focus on prevention of mother to child transmission services' delivery as an integral component of maternal and newborn care health packages with focus on areas with high unmet needs is being implemented in order to achieve the goals of eliminating MTCT of HIV. The PMTCT coverage is

challenged with factors such as low level of skilled delivery, poor referral linkage in some areas, stock interruption of diagnostic kits and suboptimal community awareness (FMoH, 2015).

At the local level health centers where this research was carried out the factors which weaken the prevention and control of HIV infection is low performance of health promotion, disease prevention and inadequate motivated and committed health workforces at the first place. In the second place advocacy, clear communication and social mobilization to create awareness and perceptions among community still at low level. HIV communication and need for consultancy services has not well developed at rural areas; and the people need to be in silence about the infection even if a relative was died by AIDS they prefer to imitate it to cancer, stroke or other non-communicable fatal diseases. The other challenge has been unavailability of ART services; interrupted supply of diagnostic kits, non-regular and non-consistent HCT services for outpatients, women coming for ANC and delivery services. T

he HCT service was performed in case of clients provided requests and coming with urgent illness and/or develops suspected dilemma in the minds of service providers. As absence of clients HIV counseling and testing services at health post; clients intended to options of visiting health center for continuous health care and some diseases treatment regarding HIV/AIDS related illness. Rural health centers referred to urban health centers when the case became positive for treatment and positive life supporting services.

Many sexual transmitted infections (STIs) has eradicated from rural parts of health centers by some extents and the case showed decreasing trends. Early treatment of the infections without transmitted to others as much as possible is well developed than earlier years.

4.6.8.2 Tuberculosis Prevention and Control

Ethiopia ranks third in Africa and eight out of 22 highest tuberculosis burdened countries in the world. The prevalence of all forms of TB is estimated at 527 per 100,000 populations, leading to a 64 per 100,000 population mortality rate annually. The incidence rate of all forms of TB estimated at 359 per 100,000 populations while the incidence rate of smear- positive TB is estimated at 163 per 100,000 (FMoH, 2015). Ethiopia is one of the high TB/HIV and multidrug resistant TB (MDR TB) burden countries. Among TB patients with known HIV status about 11% were HIV co-infected. According to the recent national TB drug resistance surveillance report, 2.3% of new TB cases and 17.8% previously treated TB cases were estimated to have MDR TB (EPHI, 2016).

Nationally the TB incidence rate has fallen to 224 per 100,000 of the population in 2013 compared with 369 in 1990. The target of having TB prevalence rate by 2015 has also been met; TB prevalence rate has fallen by 50.5%. Ethiopia has also achieved the target of 50% reduction of TB mortality rate (EPHI, 2016). The national TB mortality rate has decreased by 64% (WHO, 2014). Almost all primary hospitals, nine of ten health centers, and three in ten health posts report that providers in the facility make a diagnosis of TB by using any of the following methods: Sputum smear only, x-ray only, either sputum or x-ray, both sputum and x-ray, based on clinical symptoms only, sputum culture or molecular tests (EPHI, 214). Governmental health facilities are more likely to provide TB services and rural health facilities offered the highest percent of TB services compared with urban health facilities (EPHI, 2016).

Tuberculosis case detection remains a major challenge for TB control especially in Africa. Nearly, 30% of infectious TB cases remain undetected leading to continuing transmission, individual suffering and death. Ethiopia case detection rate remains steady 69 percent against the expected global target. The WHO target for TB case detection is 90 percent and above. The attributes for this low case detection is poor access to TB diagnostics, poor skills among health workers, and low public knowledge about the disease (Arsema, 2018).

At studied health centers the performance of TB prevention and control and case detection has been challenged due to inadequate number and committed health extension workers who regularly searches and screens and then refer TB suspected individuals to health centers; inadequate supplies and diagnostic reagents, insufficient professional health workers, poor community awareness about the infection, unavailability of TB diagnostic services and case detection intentions in most of private for profit local clinics.

4.6.8.3 Hygiene and Environmental Sanitation

Ethiopia is characterized by a predominantly rural impoverished population with limited access to safe water, housing, sanitation, food and health care. Consequently, the disease burden is responsible for 74% of deaths and 81% of disability (Ethiopia Complete, 2015). The health extension programme is one of the government primary vehicles to drive the improvement of sanitation at kebele level. Among 16 components of health extension packages, seven cover hygiene and environmental sanitation.

As a result of concerted effort, Ethiopia has met MDG goal 7_c of improving access to safe drinking water to 57% of the population from 1990 estimate of 14% and made some progress towards access

to basic sanitation by reaching 28% of the population in 2014 up from 3% baseline in 1990. Reducing the contamination of household water supply has led to a reduction in diarrhea prevalence for children under 5 years from 23.6% in 2000 to 13% in 2011 (CSA, 2005 and 2011). According to this survey, diarrhea prevalence is highest among children residing in households that drink from unprotected wells and the situation is exacerbated in rural areas. On the other hand only 8 percent of households have an improved toilet facility not shared with other households (CSA, 2016).

At studied health centers, the work of open defecation free (ODF) was not widely applicable and grounded; basic environmental sanitation, standardized or improved latrine constructing and maintenance is at low level among rural population households together with safe and worm free drinking water facilities. At rural level the practice and awareness of solid and liquid waste management procedures is also significantly poor and not well understood by rural households in terms of meaning and functions. As construction and latrine using practices has been at low level, any public latrine has not made available at rural small towns, private trading houses have not had proper and accessible latrine for customers, local people accustomed to use defecation at market areas around public streets and urinate every places. Slaughtering for regular meat shops has been regular but has not had restricted places, it was practiced at one interested in. As countryside people lack awareness and sufficient education, and these practices expose rural people for respiratory diseases and other easily preventable communicable diseases. These also showed that disease prevention through proper disease prevention strategies, health interventions and quality preventive health and health promotions in this regard has been at marginal level.

Chapter Five: Summary of Major Findings, Conclusion and Recommendations

5.1. Summary of major findings

The data presented in chapter four aimed to answer research questions under section 1.3.of this study. Based on that the researcher carries out mixed methods research design and employing descriptive and explanatory types of research. As a result and based on the findings of the study at Kara health center, the overall level of customers satisfaction for premedical health services was 45.18%; the overall level of customers satisfaction from different components of health services was 42.2%; and the overall level of satisfaction among maternal and child health service utilizers was 43.33%.

As similar data analysis depicted at Gumbichu health center, the overall level of customers satisfaction from pre-medical services was 49.32%; the overall level of satisfaction from different components of health services was 47.2%; likewise the overall level of satisfaction among maternal and child health service utilizers at the department was 51.7%. The overall level of different level of customers satisfaction varieties and different figures recorded between Gumbichu and Kara health center was mainly due to electrification and medical laboratory service availability at former health center for years.

The non-computerized service provisions particularly at card room, inadequacy of information where customers want to going, multiple and repeated registration as well as payment for a card and absence of recruited personnel who were well educated, trained and appropriate for card room services identified as the major factors affecting level of customers satisfaction in pre-medical services at both health centers.

In case of different types of health service deliveries: Inadequacy of health information provisions, explanations of procedures, consultancy about health care and services, courtesy and respect, good interpersonal relationship and confidentiality concerning health problems and services provided, health center prompt solving capacity of clients health questions and problems, accessibility to latrine, cleanliness of service rooms and sanitation of health center environment, availability of medical laboratory services and ordered tests; availability of ordered drugs found to be the major contributing factors affecting customer level of satisfaction at two health centers.

The main factors affecting customer satisfaction at maternal and child health service departments at both health centers was strongly related with inadequate availability of self choice contraceptives, inadequate availability of vaccines when women visit health centers, inadequate technical competence and ability level of service providers related to level of education, experience and sufficient trainings.

Concerning environmental health to combat the burden of communicable diseases at rural settings as findings of the study from studied respondents, 96.6% of rural households did not have and use standardized latrine, 83.2% used open defecation practices, 97.6% had not proper solid and liquid waste management practices by preparing holes and its knowledge despite it is one component from 16 health extension packages; 81% rural households did not have separate animal and human dwellings, 79% did not access to clean, worm free and improved drinking water sources. This indicates that the burden of communicable diseases increased at rural settings, its exposure is high and its cost of treatment has increased household expenses at rural areas than at urban areas. So it is clearly showed that preventive health services is at substandard at rural areas, because incapability of national health policy implementation and inadequate health resource challenges. Shortage of motivated, committed health workers at rural settings and existing health service delivery systems contributes for the above quality health service low performances.

5.2. Conclusion

Service delivery is the systematic arrangement of activities in service giving in situations with the aim of fulfilling the needs and expectations of customers. Health service delivery particularly designed for multi-dimensions of activities performed and provided by especially trained health workers and some supportive staffs at different levels of the community aimed to ensure persistent well being, reduced morbidity and mortality, combating communicable diseases transmissions and burdens and satisfying the needs, desires and expectations of the people so that the country enriched with healthier and productive man power.

The main objective of this study is to assess health service delivery system and associated customer satisfaction of outpatient, maternal and child health services at two rural health centers in Wuchale Woreda Oromia Regional State of Ethiopia.

There are sufficient justifications for studying health service delivery system and customer satisfaction at rural health centers. Firstly, despite the theoretical existing decentralized and democratized health services in Ethiopia at policy level, there are still wide gaps and challenges to

standardize the service delivery system of primary rural health centers mainly in regarding to appropriate and adequate service units, health supplies, infrastructures, skilled human resource allocations and technology adoptions for quality health services. Further, little empirical research was conducted at rural health centers of Ethiopia in aspects of assessing service delivery system and associated customer satisfaction. There are also inadequate trends and customs of conducting periodical assessment of customer satisfaction surveys to predict the gaps and challenges of health service delivery system and to take early appropriate actions at studied rural health centers.

In Ethiopia studies showed that the low level of socioeconomic development resulting in low level of economic development and low standards of living, poor environmental conditions and low level of social services has been the major causes of poor health status of the people. The major affected and privileged populations are living in rural areas. The low level of education and lack of awareness of health services exacerbate the problems for years. Most literatures indicated that low level of customer satisfaction recorded in health facilities of Ethiopia.

Customer satisfaction is about relationships between the customer, product or service. Customer satisfaction is highly personal assessment that is greatly influenced by individual expectations. It is highly associated with service quality dimensions. The quality of health service delivery system has significant impact on quality health services; in such a way unless the basic health service delivery system be improved or changed with its internal institutional capacity, quality health service and related customer satisfaction could not be ensured or enhanced.

Measurement of patient/customer satisfaction plays an important role in the growing push toward accountability among health service providers. Studies on patient satisfaction have a significant role in developing and delivering high quality health care especially in rural health care facilities.

The variables of factors which occasionally affect level of customer satisfaction from preventive and curative health services mostly also related to service provision standards of the health center which was seen in parts of organizational structure, facilities, infrastructures, medical equipments, drugs, vaccines, supplies, lack of inadequate and inappropriate service units; and inadequate skilled and non-skilled human resources. But these service quality and customer satisfaction influencing factors are generally found burying in service quality models as integral components of tangibles, reliability, responsiveness, assurance and empathy.

Most of customers at rural areas do not give much attention to the structure aspects of quality health services; but they are highly sensitive towards the process and outcome or end results of the health

services rendered for them. Uncured customers or families from the illness at studied health centers by any means never tend to comply or report satisfaction about any sections of the health service questionnaires rather complaining much full of accused words of mouth.

The elements of service quality models such as willingness to help a customer on time, accountability and responsibility to help customers, respectful communication,adequate consultancy and able to express compassion at the time of service provisions are among factors influencing customers level of satisfaction. From experience point of view and observed from studied subjects, those customers who satisfied with a health services were more likely to come for fore visits and follow the recommendations of their service providers; provides thanks and use good words of mouth for service providers and the organization.

5.3. Recommendations

This study attempted to recommend on some findings obtained during the study. At first place, emerging-present population growth and limited resource sharing, susceptibility to different types of diseases as a result of environmental weather change, and increased public needs for improved and quality health services. As a result primary health care service delivery system and design, one health center for five kebele is not sufficient health policy nowadays. The construction and design of health centers should be improved and expanded for quality health service provision strategies for recent increased rural people health needs and public health problems to maximize the level of customer satisfaction. To make accessible quality health service deliveries for remote parts of the people from health centers; policy review, reformulations and further researches are required in addition to the different gaps in allocation of health resources for today existing rural health centers.

The researcher also strive to recommend the major factors affecting level of customer satisfaction at pre-medical health services:The non-computerized service provisions particularly at card room, inadequacy of information where customers want to going, unavailability of the sign that indicates each service rooms, multiple and repeated registration as well as payment for a card and absence of recruited personnel who were well educated, trained and appropriate for card room services in sense of ownership and related long waiting time and unnecessary cost of money for client cards was identified to be the major factors affecting level of customers satisfaction with pre-medical services at both health centers and should be improved.

In case of different components of health service deliveries: Inadequacy of health information provisions, explanations of procedures, consultancy about health care and services, courtesy and

respect, confidentiality and privacy concerning health problems and services provided, clients health questions and problems and prompt answering capacity, accessibility of latrine, cleanliness of service rooms and sanitation of health center environment, absence of medical laboratory services at Kara health center, inadequate availability of laboratory reagents and ordered tests at Gumbichu health center, inadequate availability of ordered drugs at both health centers found to be the contributing factors affecting customers level of satisfaction and needs appropriate interventions and further improvements.

The issues of regular and consistent basic preventive health service provisions for maternal and child survival including child immunization, institutional delivery, antenatal care, postnatal care and neonatal care and services are urgent and needs primary level health service delivery system intervention and research especially for those people and kebeles which found distantly from health centers with inappropriate transportation systems. The intervention system and strategies is better if adequately address health center service delivery is decentralized to each kebele with adequate and appropriate health resources.

Concerning diseases prevention and health promotion aspects of public health the triggering factors for transmissions and burdens of communicable diseases such as underdeveloped and low coverage of improved water source, household latrines, proper waste management, improved dwellings at rural kebeles and its villages and public latrines at market places in small growing towns around health centers need urgent intervention of governments and its agents. In line with this to solve local public health problems such as poor environmental health and sanitation and household latrine construction and using practices should be improved, supported and strengthened by adequate legal frameworks share a part towards the problem.

The health service delivery system at rural parts of Ethiopia as many literatures and the research findings revealed poor and inadequate, health resources also limited. But what remained unstudied at rural health service delivery system is that the inadequacy and role of decentralized quality health services per kebele. The researcher recommends that decentralization of health center per kebele for quality health service provisions. This plays a crucial role to solve health problems for older patients, disabled and severely sick patients who found at far distant kebeles from today existing health centers. These patients sometimes would not come because it is so tired some to come from so far kebeles on their foot; the death of infants and children on road and on the mothers back while coming on her foot from so far distant kebeles will be reduced by this primary health service reform.

As many mothers have given births at their home with unskilled assistant and their still births and neonates died there without the known, care and assistance of skilled health workers. Maternal deaths related to pregnancy and its complications as a result of delays and long distance for early access to health centers has been widely observed. So to improve and solve these and related public health problems at rural settings, decentralizing health center per kebele is important. This means that all health posts shall be upgraded to health centers and the health extension workers shall be staffed, managed, controlled and governed within the health center directors. In this aspect, the health extension workers will carry out the activities of preventive health services and health promotions more effectively and efficiently. Their accountability and responsibility for their duties will be well developed and also fall under the control of health centers directors rather than being under-the control of kebele managers who have inadequate knowledge and perceptions about health services and health sector activities. In line of this, all maternal and child health services accessibility and consistent utilization also will be improved.

The author also need to recommend, as drug supplies for health centers is inadequate with no alternatives and consistently unavailable; community pharmacy is better to be introduced or other means of legal drug source other than the health centers. Immediate and urgent referral system mechanism should also be affiliated by the government. Problems regarding absence and inappropriate services units, internal facilities such as water, alternative light source in addition to electricity for twenty four hours, consistent outreach programme for child immunizations all should be considered and improved by the governmental intervention or volunteer health service stakeholders.

The adequacy of health service information provisions, professional ethics and responsiveness should be improved especially among midwifery health workers during conducting women institutional delivery, immunization, antenatal care and services. The issue of availability of self choice contraceptives and women incline to choose injection forms of contraceptives for their safety and fear of pain and complications; on the other hand health workers enforcement to use long term types of contraceptives for health center planning Vs achievement better to be studied by the sector regarding problems of safety and convenience of long term contraceptives especially implanone for women health and well-being.

As drugs, laboratory reagents and other health supplies buying took a lot of procedures and long duration and process when in need, it is better to design short cut strategies the ways in which health center may obtain and buy without extra time elapsing and much customer complaints. The

government should better to be elegant to participate and to involve private stakeholders to take a part at primary level of health activities and performances at rural health centers in order to solve health service delivery system gaps, deficiencies and persistent problems and to ensure health service quality, equity, accessibility, consistence, regular coverage and comprehensiveness.

Periodical customer satisfaction survey should be promoted and carried out by health centers or by relevant bodies and immediate response and timely corrections should also be given for customers based on survey findings. Together with this rural health centers service delivery system and its quality should be assessed, encouraged and carried out by applying health research and development. Periodical adequate on-job training should be given for all health center workers working at each service unit regarding customer handling techniques to provide expected or more than expected services. Adequately skilled and competent workforces should be carefully recruited or employed for health facilities in general for rural health centers in particular.

The government also appreciated if facilitate appropriate mechanisms to participate local private for profit clinics to take a part in tuberculosis prevention and control activities especially in 'case detections', maternal and child health services and generally in key preventive health services.

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Appendices

Appendix A: sample survey questionnaires distributed to customer respondents

ADDIS ABABA UNIVERISTY

COLLEGE OF BUSINESS AND EONOMICS

DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

MASTERS PROGRAM IN PUBLIC MANAGEMENT AND POLICY SPECIALIZED IN DEVELOPMENT MANAGEMENT

Research Title: "Assessment of service delivery system and customer satisfaction at rural health centers: the case of two health centers in Wuchale woreda".

Questionnaire to be filled by sampled customers under two health centers who are familiar with service delivery system and associated problems in their respective public health centers. Under this customer questionnaire survey structured and semi-structured types of questionnaire was used accordingly and based on the data or information required for this study.

Introduction

Thank you for your willingness to participate in this study as a respondent. This questionnaire is used to collect data for the masters research entitled "service delivery system and customer satisfaction at rural health centers: The case of two health centers in wuchale woreda".

Your experience sharing as health service users and involvements, comments and opinions will significantly add value as an input to this study. I assure you that the information you provide will be used only for academic research purpose and anonymity of the respondent will be maintained throughout the research process.

Thank you for your cooperation in advance!

Part I: Socio-Demographic characteristics of respondents

1. Sex

A, male B, female

2. Age in years

A, 18-24 B, 25-34 C, 35-44 D, 45+

3. Marital status

A, married B, Single C, Divorced

4. Educational status

A, Illiterate B, 1-4 C, 5-8 D,9-12 E, TVET+

5. Occupational status

A, farmer B, merchant C, Government employee D, student E, others

6. Address

A, Rural B, Urban

7. Payment status

A, free B, paying

8. Reasons for visit

A, Illness B, family planning C, ANC and delivery D, vaccinations

9. Frequency of visit

A, new B, repeat

Part II: Questionnaires for Levels of satisfaction of customers with different components of health care services at Kara and Gumbichu Health center to get a deep view about the expectations and perceptions of the customers towards rural health centers service delivery system.

Code 5= very satisfied, Code 4 =Satisfied, Code 3= neutral, Code 2= dissatisfied,

Code 1= very dissatisfied

	Characteristics (Variables)	Scales		
		4	3	2
I	Clients satisfaction before medical services (at pre-medical services)			
1	How are you satisfied with availability of information where customers are want to going in the health center?			
2	How are you satisfied with availability of the sign that indicates the service rooms in the health Center?			
3	How are you satisfied with waiting time for card and registration services at card room?			
	.≤5min			
	.6-10min			
	. >10 min			
	How are you satisfied with availability of card from computer when you lost previous mini card unintentionally?			
4	How are you satisfied with the frequency of registration for a new card as the previous mini card was lost?			
	. =2			
	. >2			

	. >3			
5	How are you satisfied with willingness and helpfulness of personnel working in the card room for registration services?			
6	How are you satisfied with courtesy/ respect of the personnel help you in the card room?			
7	How are you satisfied with the waiting time to get card or registration services at card room?			
8	How are you satisfied with overall service conditions and waiting time before at pre-medical Services?			
II	Health center environmental Sanitation questions			
9	How are you satisfied with access to latrine, the cleanliness and sanitation of service rooms and health center environment?			
III	Customers satisfaction towards different components of health services			
10	How are you satisfied with the health workers service provision willingness and availability at service rooms?			
11	How are you satisfied with adequacy of health information provisions, explanations of procedures and consultancy about health services?			
	.Yes all			
	.No some only			

12	How are you satisfied with the courtesy and respect of health workers?			
13	How are you satisfied with confidentiality and privacy about your health problem and services provided?			
14	How are you satisfied with ability of health workers& health centers capacity to solve your health questions and problems?			
	.Yes			
	.No some only			
15	How are you satisfied with overall service conditions of health workers for customers?			
16	How are you satisfied with welcoming approaches and service rendered by laboratory service providers?			
17	How are you satisfied with availability of ordered laboratory tests?			
	.Yes all			
	.No some only			
18	How are you satisfied with accuracy of dispensary services& availability of ordered drugs?			
	.Yes			
	.No some only			

IV	Maternal and child health services			
19	How are satisfied with attention and compassion of heath workers?			
20	How are you satisfied with willingness and helpfulness of health workers?			
21	How are you satisfied with availability of self choice contraceptives?			
	.Yes all			
	.No some only			
22	How are you satisfied with technical abilities of health workers?			
	.Yes all			
	.No some only			
23	How are you satisfied with availability of vaccines?			
	.Yes all			
	.No some only			
24	How are you satisfied with respectful caring& interpersonal relations during ANC & delivery services?			
25	How are you satisfied with overall satisfaction from maternal and child health services?			

Could you please mention some points why you were dissatisfied with health center health services?

Note: Code 5 merged into code 4 and code 1 merged into code 2 so as to simplify the study

Part III: Major basic health extension package under-performances in studied health centers at rural settings

1. Do you have improved and standardized latrine?

A, Yes B, No

2. Do you have solid and liquid waste management holes

A, Yes B, No

3. Do you have improved drinking water source which is worm free?

A, Yes B, No

4. Do you have separated human and animal dwellings?

A, Yes B, No

5. Do you and your family all use latrine for human excreta disposal?

A, Yes B, No/ we think to construct

C, we had but now it is out of use

Thank you for your cooperation!

Translated Customer health service level of satisfaction questionnaires into local language Oromiffaa

Kuta 1ffaa: Gaaffillee eenyummaa ibsan

1. Saalaa

A, Dhi B, Dub

2. Ummuri waggaa dhan

A, 18-24 B, 25-34 C, 35-44 D, 45+

3. Haalaa fudhaa fi heerumaa

A, kan hin fudhin B, kan fudhee C, kan jala du'ee/ kan jala dutee D, kan walihikan

4. Sadarkaa barumsaa

A, kan hin baratnee B, 1-4 C, 5-8 D, 9-12 E, levelii fi isaa ol

5. Hojjiin ittin jiratan

A, Qotee bulaa B, daldalaa C, hojjeeta/hojjeettu mootummaa D, barataa E, kan biroo

6. Iddon jireenya keessani eessaa?

A, Baadiyaa B, Magaallaa

7. Sabaabaa malitiif Buufataa fayyaa deemtan?

A. Dhukkubaa B, qussannoo maattii C, tajaajila dhahumsaa duraa fi dhahumsaatiif

D, tajaajila kitbaataa E, daa'immaa dhukkubee

8. Haalaa tajaajila kaffalti yaala fayyaa

A, Bilisaa/ tolaa B, kaffalti dhan

9. Haalaa deedebii tajaajila Buufata faaychaa

A, haaraa/ yeroo duratiif B, isaan duras deemeraa

Kuta 2ffaa: Gaaffillee tajaajila fayyaa adda addaa qabatee jiruu.

Kodi 5= baayyee itti qufera, Kodi 4 = itti quferaa , Kodi 3= gidu-galeessa(Yoma hin jedhu),

Kodi 2= itti hin qufnee Kodi 1= baayyee itti hin qufnee

Lak.	Maaddaali	4	3	2
I	Itti quufnsa maamla yaala duraa			
1	Garam akka deemu barbadan odeefanno jirutti hangam itti quftan?			
2	Garam akka deemu barbaadan malattoo agarisfitutti hangam itti quftan?			
3	Sa'aa turmataa mana kardi jiru hangam itti quftan?			
	Daqiqaa ≤5			
	Daqiqqaa 6-10			
	Daqiqqaa >10			
4	Kardi yaala xiqqoon yoon isiin jala badee komputeraa keessa lakk. Kardii isiniif barbadurratti hangam itti quftan?			
5	Kardin dura xiqqoon isiin jalaa badee isiniif barbaadu dhabu dhan, Kardi haaraa basuu keessanif hangam itti quftan?			
	. Yeroo = 2			
	.Yeroo >2			
	.Yeroo >3			
6	Hojjeetoni nannoo kuta kardi hojjeetan fedhi fi dhamma'uu dhan isin gargaarurratti hangam itti quftan?			
7	Hojjeetoni kuta kardi hojjeetan safuu fi kabajaan isin gaargarurratti hangam itti quftan?			

8	Tajaaila fi keessumesun yaala dura waligalatti hangam itti quftan?			
II	Gaaffii haala qulqullina moora Buufata fayyaa			
9	Haali dhiyeenya mana fincaanni, qulqullinni dhalaa keessa fi kutan tajaajila fayya hangam itti quftan?			
III	Itti qufinsaa maamila kenninsa tajaajila yaala adda addaa ilaalchissee			
10	Fedhin hojjeetonni fayyaa tajaaila yaala isniif kennuuf qabani fi kuta tajaajila keessatti argamuu hangam itti quftan?			
11	Odeefannoo fayyaa gahaa dabarsu, procejurrii hojjeechun dura isiniif ibsuu fi gorsa gahaa isinni kennurratti hangam itti quftan?			
	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
12	Ogeeyn fayyaa yeroo tajaajilaa kennan fedhi fi haawwatan isin gaargarusani hangam itti quftan?			
13	Ogeeyonni fayyaa rakko kessan dhoskaa dhan isini qabuu fi alaa otto hin baasn isiin tajaajilurratti hangam itti quftan?			
14	Ogeeyn fayyaa fi bulchisni Buufata faaycha gaaffi fi rakkoo keessan fururratti hanga itti quftan?			
	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
15	Tajaajila naannoo kenninsa yaala waligalassaa hangam itti quftan?			
16	Haala simanaa fi keessumeessa kuta laboratory hangam itti quftan?			
17	Qorranno laboratory isiniif ajjeejame argamuusa hangam itti quftan?			

	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
18	Haali tajaajiltummaa kuta qorichaa fi qorichii isinii ajjeejame argamusaa hangam qubsa dhaa?			
	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
IV	Tajaajila hadholee fi daai'mmani ilaalchissee			
19	Xiyyeeffanaa fi jalaalan isin tajaajilurratti hangam hangam itti quftan?			
20	Fedhi fi dhamma'uun isin gargarusani hangam itti quftan?			
21	Qorichaa qusannoo maattii gosaa barbaadan argamusaa hangam itti quftan?			
	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
22	Dandeetti ogeeyyota fi beellama isini kennamu hangam itti quftan?			
	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
23	Qorichaa kitibaata guyyaa deemtan argachu keessanif hangam itti quftan?			
	.Eyyee qubsaa dha			
	. mitii yeroo tokko tokkoo qofaa			
24	Haala gariin offitti isin qabani kabajaan tajaajilurratti hangam itti quftan?			
25	Haala tajaajila waligalaa hadholii fi daa'immani hangam itti quftan?			

Akka itti hin qufnee waantoota isiin taasissan sabaaba biroo naaf ibsuu dandeessuu?

_____

_____

Hub:- qorrannoo kana salphissuuf jechaa kodin5 kodii 4tti dabalamerraa, kodin 1 immoo kodi 2tti dabalame jira.

Kuta 3ffaa: Gaaffii pakeejii ekisteeshinni fayyaa gurguddoo raawwin gadi bu'aa ta'ee fayyaa namarratti miidhaa gaechissu danda'an ilaalchissee

1. Mana fincaanni sadarkaa isaa egatee qabduu?

A, Eyyee B, hin qabnuu

2. Bollaa kossii googaa fi dhangala'oo qabduu

A, Eyyee B, hin qabnuu

3. Maddaa bishaan qulqulluu dhugaatti raammoo hin qabnee fayyadamtu/ jiraa?

A, Eyyee B, hin jiruu/ hin qabnuu

4. Mana namaa fi kan horii addaa bahee qabduu?

A, Eyyee B, hin qabnuu/waluman bulaa

5. Mana fincaani itti tajaajilamtan qabdummoo iddumma barbaadan deemtu?

A, qabnaa B, hin qabnuu/ganuma itti yaada jiraa C, nu-jalaa jigee

Galatoomaa!

Appendix B: Interview guide for key informant interviews for rural health center Directors

ADDIS ABABA UNIVERISTY

COLLEGE OF BUSINESS AND EONOMICS

DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

MASTERS PROGRAM IN PUBLIC MANAGEMENT AND POLICY

SPECIALIZED IN DEVELOPMENT MANAGEMENT

Research Title: "Assessment of service delivery system and customer satisfaction at rural health centers: the case of two health centers in Wuchale Woreda".

In-depth structured and unstructured interview protocol was developed to collect data from key informants in the rural public health centers' from Directors.

Interview date_____ Time_____

Location_____ Organization _____

Year of experience_____ Current position_____

Current position_____ Interviewer_____

Qualification of the interviewee_____

Introduction

Thank you for your cooperation as a respondent. This interview is conducted to collect data for masters research entitled "Service delivery system and customer satisfaction at rural health centers: The case of two rural health centers in wuchale woreda". Your experiences and information sharing about health services significantly add value for this thesis. I assure you that the information you provide will be used only for academic research purpose and anonymity of the respondent will be maintained throughout the research process.

Thank you in advance!

1. Do you give computer supported services at card room to save clients medical information, to protect individual card loss and data for continues and quality health care services?

Yes ☐ No ☐

2. If your answer for question number one is no, what are challenges protects you to use computer in card room?

_____

_____

3. Do you think that rural health centers have regular, continuous and timely essential drug supply and adequacy of other drug supply?

Yes ☐ No ☐

4. Does the health center and health posts under it have functional generator with fuel as alternative light source for electric light?

Yes ☐ No ☐

5. Do you think that rural health centers have adequate budget for pharmaceutical supplies, medical equipments and laboratory reagents?

Yes ☐ No ☐

6. What total budget was allocated for your health center in current budget year 2018/2019 to accomplish curative and preventive health services effectively? Is it adequate?

_____

7. Do health extension workers and health center workers have adequate incentives when they have been going rural kebeles for health preventive and promotion outreaches?

Yes ☐ No ☐

8. What are solutions do you think to overcome sanitation conditions of Gumbichu town/Kara village near your health center people urinate on public streets and market places?

_____

_____

9. Do you have the practices to supervise and regulate common food items in private food houses, meat shops, slaughtering sites and drugs sold in private shops by establishing appropriate committees?

Yes ☐ No ☐

10. What are major factors affecting implementation of preventive health service packages in kebeles under your health center in accordance with national preventive health policy?

_____

_____

11. Which health policy formulation or rules do you think need to be improved as your recommendation for more effective service delivery?

_____

_____

Appendix C: Focus group discussions guide for rural health extension workers, kebele managers and supportive supervisors

ADDIS ABABA UNIVERISTY

COLLEGE OF BUSINESS AND EONOMICS

DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

MASTERS PROGRAM IN PUBLIC MANAGEMENT AND POLICY

SPECIALIZED IN DEVELOPMENT MANAGEMENT

Research Title: "Assessment of service delivery system and customer satisfaction at rural health centers: The case of two health centers in Wuchale woreda".

In-depth structured and unstructured focus group discussions protocol was developed to collect data from key participants in the rural public health centers' to search and find additional supplemental information for this study.

Focus group date_____ Time_____

Location_____

organization_____

Qualification of the participants_____

Year of experience_____

Current position_____

Group leader_____

Introduction

Thank you for your cooperation as a respondent. This focus group discussion is conducted to collect data for masters research entitled “Service delivery system and customer satisfaction at rural health centers: The case of two rural health centers in wuchale woreda”. Your experiences and information sharing and discourses about health services significantly add value for this thesis. I assure you that the information you provide will be used only for academic research purpose and anonymity of the each participant will be maintained throughout the research process.

Thank you in advance!

1. Do you have health development army who assists you in community outreach services? Do they have had adequate health trainings and incentives?
2. What are problems and challenges in screening all forms of TB and give treatment services; screening under five year malnourished children and to give regular treatment services at health post?
3. What are problems and challenges in health post to conduct clean and skilled delivery services by health extension workers?
4. What are problems and challenges in health post to give curative treatment services such as for pneumonia and acute diarrhea for under five children?
5. What hinders health extension workers to conduct HIV counseling and testing at health posts?