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Assessment of Health Service Quality: A Case of Public Health Centers in Oromia Regional State, Ethiopia

Berhanu Gemule
Assistant Professor, Researcher in the Office of Vice President for Reform, Research and Community Service, Oromia State University, Ethiopia
Ereso Negi
Lecturer, Department of Business, Management and Entrepreneurship, Oromia State University, Ethiopia
Lemmi Tafa
Lecturer, Department of Business, Management and Entrepreneurship, Oromia State University, Ethiopia

Abstract
This study aimed to assess the health service quality, overall customer satisfaction and factors affecting provision of health service quality at health centers of Oromia regional state. For this purpose, the study developed an instrument based on modified 'SERVQUAL' using five service quality dimensions, namely: tangible, reliability, responsiveness empathy, and assurance. A study was conducted with a total of 528 participants. Descriptive statistical technique was employed to analyzed data. A total of five hundred twenty-eight, comprising; three hundred fifty-one clients (both internal & external) to analyze level of quality service and overall satisfaction and one hundred seventy-seven respondents of employees of health centers to analyze factors affecting health service quality. Data was collected using closed and open-ended questionnaires. Hence, results show that the health service quality practices in health centers is greater than average in all dimensions. It was noted that assurance dimension has the highest mean, followed by reliability, empathy, responsiveness and tangibles dimension has the lowest mean out of other service quality dimensions. As it perceived overall patient satisfaction was in slightly greater than average mean. Clients were dissatisfied with the availability of drugs and supplies, sanitation and with the overall health services provided by health center. Organizational factors (Shortage of resources, poor health center management, lack of cooperation and teamwork among healthcare providers) are the major factors affecting the provision of quality health service and followed by employee of health center related and clients' related factors. The researchers suggest that supply of medicine, sanitation, shortage of resources affecting quality of health service provisions and the slightly greater than average overall customer satisfaction should be improved.

Keywords: *Service quality, health service quality, SERVQUAL, client satisfaction*

1. Introduction

1.1. Background of the Study

The health sector occupies an enormously important position in ensuring sustainable overall socio-economic advancement in developing countries (Lorin et al., 2013; Cengiz & Yildirim, 2014; and Azmi et al., 2014). Thus, for the triumph of health sectors, the role of service quality is widely recognized as being a critical determinant for the success and survival of any organization in today's competitive environment (Lorin et al., 2013); along with, most of triumphant organizations adopt a customer centered approach as their strategic pillar of planning. However, the concept of quality originated in manufacturing industries to improve productivity (Powell, 1995),it is evenly important for service providing institutions. Hence, it is now well recognized that the provision of quality services is closely associated with customer satisfaction, consumer maintenance, consumer allegiance, budgets and productivity, facility assurance, and economic presentation (Hafiz, 2008).

As Zamil (2011) has been explained the government, as large organizations, has customers those are the citizens, businesses sector, public and private employees. Government through agencies, departments, and ministries provides information and services for each customer groups; and as a result, the customers give their evaluation to the performance delivered.According to Teicher et al. (2002), the practice of service quality in public sector organizations is slow and furthermore it is exacerbated by the difficulty in measuring the outcomes, considerable surveillance of the press and the public, the lack of freedom to improvise freely and the need for decisions to be based on the law.

According to Azmi et al., (2014) since healthcare one of essential components in human life, which is considered as the management of any health-related problems that might be offered through medical, nursing, dental or any other

health service providers. Since service is perceived as any activity undertaken to meet the social needs (Cronin & Taylor 1992), public health service particularly refers to those activities of government and private institutions aimed at satisfying the needs and ensuring the well-being of the people in the society.

As public institutions service sectors strive to improve their service quality in order to satisfy their customers (Riono & Ahmadi, 2017); likewise, health sector is among service providing institutions that works to persistently enlarge health service satisfaction throughout the world including our country. In general, in Oromia region it is evidence that the number of health institutions such as hospital, health center and health post that have been increased in an alarming rate (WHO, 2014). In addition to this, they have crucial role for overall economic growth (World Bank, 2010); however, in recent years there are limitations in providing services quality at health posts and health centers in our country.

According to Koichiro Otani (2004), patient satisfaction has been an important issue for health care managers. Accordingly, various studies have been conducted and applied on patient satisfaction as a quality improvement tool for health care providers; such as Andaleeb (2001); Babakus & Mangold (1992); Tomes & Ng, S.C.P. (1995); Uzun (2001) etc. following increased levels of competition and the emphasis on consumerism, patient satisfaction has become an important measurement for monitoring health care performance of health plans (A. Raj et al., 2009). Measuring patient satisfaction has become an integral part of health institutions management strategies across the globe (Fekadu et al., 2011); which is the gap between the expected service and the experience of the service from the patients' point of view or as to the design and management of health care system (Andaleeb, 2001). According to Gheorghe & Petrescu (2013) and Berry &Beudapudi, 2007healthcare service is important to protect the community health and increase their production potential. In its nature, healthcare services are appealing because they are services that most individuals do not want but need at a certain point in time (Berry &Beudapudi, 2007).Healthcare quality measurement is the accepted criteria for assessing the effectiveness of health care delivery on a global scale (Kleinman & Dougherty, 2013).

In many countries, research on health care quality and patient satisfaction has gained increasing attention inrecent years (Abdul Majeed et al., 2011; Navid et al., 2010; Owusu-Frimpong et al., 2010; Halil et al., 2010; Badri et al., 2009; Elleuch, 2008).Likewise, a few studies have investigated this issue in the Oromia regional state particularly in health centers.

By looking at the overall perspectives, this study will be conducted to measure thequality of health service in Oromia Regional state public health centers and provide recommendations where improvements can be made. Accordingly, this study focuses on health centers in particular aiming not to find relationships or causal factors among variables, but to interpret and describe the practice.

1.2. Statement of the Problem

In public institutions, service quality affects with a lot of challenges (Janda et al, 2002). Issues like excessive bureaucracy, political interference, corruption, poor working conditions, poor work ethics, outdated and outmoded systems, procedures and practices among others, conspire to impact adversely on service quality delivery by public sector organizations (Benjamin, 2012). In recent times, health service sector is encountering with of problems such as poor customer care and poor-quality service in government healthcare institutions are greatly affecting corporate image (K. Srinivasan & S. Saravanan, 2015).

Some of the research findings indicate that there is health service quality gap, which leads to customers' dissatisfactions in developing countries; for instance, WHO (2015) stated that there is health service quality gap in the developing country due to lack of knowledge; ideas methods and low level of training this would results the dissatisfaction of patients. According to Mohammed Nor et al. (2010), public sector organizations agree that customer service is one of the most important vital factors that contribute to the establishment of reputation and credibility among the public. They argue that the public complaint of long queues, poor service delivery and insufficient physical facilities may affect the image and level of service quality in the public sector.

It is collective (employee's and managers') responsibility to demonstrate good customer service, but especially critical for those who have day-to-day contact with the public. As the largest organization in Oromia Regional State, the service quality in public health institutions have a tremendous influence on public perceptions of the quality of the public service. Likewise, in Ethiopia as well as in Oromia, there are several studies have been conducted those mainly focus on the health services delivery in public hospitals. According to the researchers' knowledge, the literature on clients' perception about the quality of health services is still limited — especially, in the public health centers. Therefore, this research tried to fill this gap by assessing of public health centers service quality in Oromia regional state from the point of view of clients.

1.3. The Objective of the Study

1.3.1. General Objective

The overall aim of this study is to assess the health service quality of health centers of Oromia Regional State.

1.3.2. Specific Objectives

The specific objectives of this study include:

- To identify the level of health service quality of health centers of the region
- To examine the customer satisfaction of health centers
- To recognize factors that affect the quality of health service provision of health centers of the region

- To recommend area(s) that requires improvement

1.4. Significance of the Study

The finding this study is expected to have significance in indicating level of service quality and customer satisfaction in public health centers. The study also contributes in evaluating and identifying factors that hinders the provision of quality health services and help the organization in making some adjustment on existing system. In addition to this, it also provides constructive feedback for the health professionals and health centers managers about the efficiency and effectiveness of the existing service quality in those public health centers in Oromia regional state.

1.5. Scope and limitations of the Study

Conceptually, the area of the study is emphasized on customer service quality in public health centers by means of having Oromia regional state in its geographical scope. In addition to this, it focused on the dimensions of customer service quality from customer perspectives particularly in the health centers. In this regard, the study cannot be conducted on other public health care institutions and only assess the functional quality of health center service.

1.6. Operational Definitions

The following Operational definitions were used during the conduct of this study.

1.6.1. SERVQUAL

SERVQUAL is an instrument for measuring service quality, in terms of the discrepancy between customers' expectation regarding service offered and the perception of the service received

1.6.2. Customer Expectation

Means uncontrollable factors including past experience, personal needs, word of mouth, and external communication about HP & HC service

1.6.3. Customer Perception

Means customers' feelings of pleasure / displeasure or the reaction of the customers in relation to the performance of the HP & HC staff in satisfying / dissatisfying the services.

1.6.4. Health Center

Can be defined as an organized effort to provide a specific set of medical services, usually physically located in one or several buildings, and related to primary and secondary care (Diagnosis and Treatment) with the input of health professionals, technologies and facilities that have been consist up to five health posts, and serving up to 25,000 populations.

1.6.5. Assessment

Is the process by which the characteristics and needs of clients, groups or situations are evaluated or determined so that they can be addressed? The assessment forms the basis of a plan for service or actions.

1.6.6. Service

Any activity undertaken to meet the social needs,

1.6.7. Quality

User based quality is defined as "fitness for use", which means the consumer's perception of quality. It is also defined as meeting the desires and expectations of customers.

1.7. Organization of the Study

The study is divided into five chapters. Chapter 1 consists of the back ground of the study, statement of the problem, objective of the study, significance of the study and, scope and limitation of the study. Chapter 2 reviews existing literature with regard to tax administration: tax assessment and collection. Chapter 3 deals with the research methodology which consists the research design, population, sample and sampling technique, data collection procedure, and the techniques used in the analysis. Chapter 4 is exclusively devoted to data presentation, analysis, and discussion of the main findings. Finally, chapter 5 concludes the study with summary of findings, conclusion, and recommendations.

2. Review of Literature and Related Studies

2.1. Theoretical Concept

2.1.1. Overview of Service Quality

Service quality is commonly noted as a critical prerequisite for establishing and sustaining satisfying relationship with valued customers. The service industry plays an indispensable role in the economy of any country. Both the private and public sectors play very useful roles in the service industry. The role of the public sector in the delivery of quality services is even more crucial in developing countries like Ethiopia, as well as Oromia regional state.

According to Gowan et al (2001), service provision is more complex in the public sector because it is not simply a matter of meeting expressed needs but of finding out unexpressed needs, setting priorities, allocating resources and publicly justifying and accounting for what has been done. According to Zeithaml and Bitner (2008), service quality is focused on evaluation that reflects the customer's perceptions of specific dimensions of quality: reliability, responsiveness, assurance, empathy and tangible; comparing service quality and customer satisfaction.

Customer Satisfaction	Service Quality
Customer satisfaction can result from any dimension, whether or not it is quality related.	The dimensions underlying quality judgments are rather specific.
Customer satisfaction judgments can be formed by a large number of non-quality issues, such as needs, equity, perceptions of fairness.	Expectations for quality are based on ideals or perceptions of excellence.
Customer satisfaction is believed to have more conceptual antecedents	Service quality has less conceptual antecedents.
Satisfaction judgments do require experience with the service or provider.	Quality perceptions do not require experience with the service or provider.

Table 1: The Distinction between Service Quality and Customer Satisfaction
Source: Adapted from Various Sources (Oliver, 1993; Spreng & Mackoy, 1996; and, Choi Et Al., 2004)

2.1.2. Health Care Service Quality Concept

The interest in health care service quality is growing with increasing pressure to measure quality; patient-based assessments of medical care are becoming increasingly important. Patients offer a unique perspective for evaluating the nontechnical aspects of medical care. In literature, there are various definitions of healthcare service quality. The Institute of Medicine defines healthcare quality as the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (U.S. National library of medicine,2017).Mosadeghrad (2011) defined Quality healthcare as consistently delighting the patient by providing efficacious, effective and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patient's needs and satisfies providers.

In general, service quality, to which the health sector is no exception, is divided into two main components; namely they are, technical and functional quality (Gronroos, 1984; Parasuraman et al., 1985) Technical quality (clinical quality) is defined as the technical diagnosis and procedures (e.g., surgical skills), while functional quality refers to the manner of delivering the services to the patients (e.g. attitudes of doctors and nurses toward the patients, cleanliness of the facilities, quality of health center food. Because, most patients lack medical expertise for evaluating the technical attributes, the service marketing approach, which focuses on functional quality perceived by patients, has been widely used to evaluate the health services, (Buttle, 1996; and, Dursun & Cerci, 2004).

2.1.3. Dimensions of SERVQUAL Model

In the health care literature, various measurement items for healthcare service quality have been developed. Service quality measurement in health care developed in time based on the framework of SERVQUAL. Despite all limitations regarding SERVQUAL proved to be a successful background in health care. The service quality model SERVQUAL ranks as the most important models and one of the widely used models to measure quality in service areas referring its comprehensiveness and practical applicability (lee & kim,2017).

The SERVQUAL model assumes that service quality is multidimensional concept. Various authors have provided different conceptualizations over time. They include Groonroos's (1984) three-component structure (technical quality, functional quality and reputational quality); Lehtinen & Lehtinen's (1982) three component conceptualization (interactive, physical and corporate quality); Hedvall and Paltschik's (1989) two dimension model (willingness and ability to serve; and physical and psychological access); Garvin's (1988) nine dimensional approach (performance, features, conformance, reliability, durability, serviceability, response, aesthetics and reputation); Oliver and Rust's (1994) functional quality, technical quality and environmental quality construct; Parasuraman, Zeithaml and Berry (1988) conceptualization of five dimensions (tangibles (T), reliability (R), responsiveness (R), assurance (A) and empathy (E) which eventually led to the development of the SERVQUAL instrument. Petrick (2009) identified ten determinants of service quality that may relate to any service: Competence, Courtesy, Credibility; Security; Access; Communication, understanding knowing the customer; Tangibles; Reliability; Responsiveness. Later they were reduced to five to include Tangibles; Reliability; Responsiveness; Assurance: competence, courtesy, trustworthiness, security and Empathy. SERVQUAL scale became to be the most widely used, validated and generally accepted service quality measurement in the services literature (Ladhari, 2009).However, the five-dimensional construct of PZB (1988) happens to be the most universally accepted and most extensively used.

- Tangibility(Appearance of physical facilities, equipment, personnel, and communication materials)
- Reliability (Ability to perform the promised service dependably and accurately)
- Responsiveness (Willingness to help customers and provide prompt service- promptness and helpfulness)
- Assurance (competence, Courtesy-Politeness, respect, consideration, and friendliness of contact personnel, credibility and security)
- Empathy (easy access, good communications and customer understanding)

According to Gowan et al. (2001), providing service in public sector are more complex because it is not only a matter of meeting the stated needs but also finding out the stated needs, setting the priorities, and allocating public resources. Public sector organizations are always under pressure to provide quality services (Randall & Senior, 1994) and improve efficiency (Robinson etal., 2005). Service quality of service is the difference between the expected and the perceived service by the customer. If the expectation is greater than the performance of the service, then the perception of service quality is less satisfactory and it is dissatisfaction (Parasuraman et al., 1985). According to Tjiptono (2012), service quality is "a measurement of how a service meets the consumer's expectation". In line with the definition, quality can be achieved through gratification of needs and demands of customers and accuracy in delivering the message to meet the customers' expectations. Therefore, there are two main factors influencing the quality of service: expected service and perceived service. If the perceived service is equal to the expected service, the quality, then, is perceived well or positively. If the perceived service is more than the expected service, the quality of the service is perceived as ideal quality. On the other hand, if perceived service is poorer than the expected service, then the service quality is perceived as bad or poor.

2.3. Empirical/Previous Studies

As it is cited in Aliman &Mohamed (2015) and Wilson et al. (2008) noted that understanding customers' views on service quality is critical for any service provider interested in ensuring that they are being responsive to clients. Service quality determinants can be divided into two main categories: the tangible and intangible factors. According to Parasuraman et al. (1985) and Halil et al. (2010) tangible factors refer to technology, physical facilities, personnel, communication materials and others. Intangible factors, on the other hand, consist of four sub-sectors which comprise reliability, responsiveness, assurance and empathy. Since 1985, many researchers have applied SERVQUAL to assess perceived service quality in the hospital sector in different countries (Rula Al-Damen, 2017). Devi & Muthuswa my (2016) investigated service quality perception in multispecialty hospitals in India. Result indicated that tangibility, reliability and responsiveness were the three most important dimensions of hospital service quality perceived by patients. As it is cited in Enjamin (2012), The study of service quality in public sector organizations has not received much attention compared to the extent of work it has received in the private sector. Brysland & Curry (2001) stated that the literature clearly supported the use of SERVQUAL in the public sector. According to Gowan et al. (2001), service provision is more complex in the public sector; because, it is not simply a matter of meeting expressed needs, but of finding out unexpressed needs, setting priorities, allocating resources and publicly justifying and accounting for what has been done. In addition, Caron and Giauque (2006) pointed out that public sector employees are currently confronted with new professional challenges arising from the introduction of new principles and tools inspired by the shift to new public management. As it was explained by Diab (2012) government hospitals applied medical service in dimensions of reliability, tangibility, empathy, and safety at high level from patient and staff perspective and there were no differences in the dimensions of quality attributed to any of the demographic variables. Similarly, Abdelgdir (2015) found that patients and reviewers are fully aware of levels of quality health services provided in government hospitals in Sudan & there were no statistically significant differences in the levels of quality of health services in government hospitals depending on the demographic variables of the sample of gender, age, education, income, place of residence.

Mosadeghrad (2014) conducted an exploratory in-depth individual and focus group interviews with 222 healthcare stakeholders including healthcare providers, managers, policy-makers, and payers to identify factors affecting the quality of healthcare services provided in Iranian healthcare organizations. Results found that personal factors related to the provider and patient, factors pertaining to the health care organization, health care system and broader environment affected health care service quality.

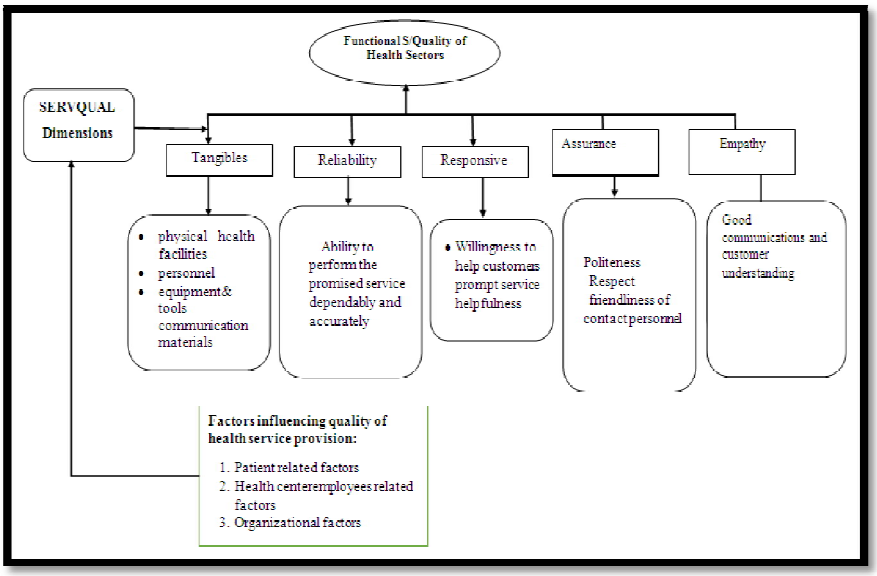

Figure 1: Conceptual Framework of Functional Quality of Health Service & Factors Influencing Quality of Health Service Provision
Source: Researchers' design from Different Literatures

Service quality measures how well the delivered service could match customer's expectations while delivery service quality refers to meeting and satisfying customer's expectation consistently and positively (Parasuraman et al., 1985).

Similarly, Taş(2012) investigated functional quality with SERVQUAL scale and determined that access, nursing services(empathy, kindness, assurance) and medicine services (empathy, kindness, assurance) were important factors in functional quality. Tanrıverdi & Erdem(2010) investigated health service quality with SERVQUAL scale and they found out that empathy, assurance and tangibles were important factors for functional quality in hospitals.

In healthcare, service quality can be broken down into two quality dimensions: technical quality and functional quality (Dean & Lang, 2008). While technical quality in the health care sector is defined primarily on the basis of the technical accuracy of the medical diagnoses and procedures or the conformance to professional specifications, functional quality refers to the manner in which the health care service is delivered to the clients. In this context, this study aims to measure the functional health service quality in Oromia Regional State public health centers using the SERVQUAL and factors affecting provision of quality health service in public health centers.

3. Research Methodology

Research methodology is a way to systematically solve the research problem. Since, it is understood as a science of studying how research is done scientifically. There are various steps that are generally adopted by researchers in studying their research problem along with the logic behind them. It is necessary for the researcher to know not only the research techniques but also the methodology (Ghosh, 2004). Therefore, the researchers tried to outline the design of the research, approach of the study, the sampling design, sampling technique, data sources, tools to be used for data collection and method of data analysis.

3.1. Research Design

The study has been employed descriptive *survey design* among several options of social science research designs. The main reason for using this research design was since it was suitable for both quantitative and qualitative data operation; and it also helps to conduct study on a problem which was not well researched before in detail, demands priorities, generates operational definitions and provides a better-researched model (Kothari, 2004).

3.2. Research Approach

Being the descriptive design, the research has been used both qualitative and quantitative approaches optionally. The study used *quantitative approach for* the generation of data in quantitative form which can be subjected to descriptive quantitative analysis in a formal and rigid fashion. *Qualitative approach* is concerned with subjective assessment of attitudes, opinions and behavior. This is done mainly to strengthen the finding of the study using both approaches.

3.3. Target Population

According to Mugenda & Mugenda (2003) a population is an entire group of individuals, events or objects with some common observable characteristics. The sample frame under the study was the 3,145,060 patients who havebeen accessed the selected health centers services in 2009 E.C. and 8,023 staff of the selected staff of the health centers. The total sample frame of the study consisted of 3,153,083.

3.4. Sample Size, Sampling Procedure and Technique

According to Oso & Onen (2009), a sample is part of the target population that has been procedurally selected to represent it. A non-probability judgment sampling plan has been implemented in the study. This method was used in this research because some judgment on the part of the researchers is necessary in order to make sure the-right respondents are chosen among the patients in the selected public health centers of Oromia regional state. In practical implementation, help patients who have problems in the interpretation of the questionnaire has been supported by the enumerators.

To get the determined sample size, multi-stage sampling design was used. Accordingly, all Oromia regional government sectors clustered in to four groups based on their geographic location. Then, from all clusters six (6) zones were selected using simple random sampling technique.

No	Cluster	Composition	No. of Zones In Each Cluster	No of Zone Selected	Proportion (%)	Random Sampling
1.	East	1. East Hararge 2. West Hararge 3. East Shewa 4. Arsi	4	1	20	East Shewa
2.	West	1. KelemWollega, 2. West Wollega, 3. East Wolega, 4. HoroGuduru, 5. Ilu Ababora, 6. Jimma 7. Buno Bedelle	7	3	35	East Wollega Jimma Buno Bedele
3.	South	1. Borena, 2. Guji, 3. West Arsi, 4. Bale 5. W/Guji	5	1	25	W/Arsi
4.	North and Central	1. West Showa 2. South West Showa 3. North Showa 4. Special Zone	4	1	20	South West Showa
Total				6		

Table 2: Cluster Sampling of Zones

3.4.1. Sampling Procedures

As Gay, L. R. (1996) suggests 10% of large populations and 20% of small populations as minimums. There are four hundred six (406) health centers in the selected zones, only 40 health centers were contacted by the researchers selected purposively which accounts 10% of the total sample frame.

No.	Zones	Number of Health Centers	Sample	Proportion (%)
1.	East Shewa	59	6	15%
2.	East Wollege	61	6	15%
3.	Jimma	119	12	30%
4.	Buno Bedele	31	3	7.5%
5.	West Arsi	84	8	20%
6.	South West Shewa	52	5	12.5%
	Total	406	40	

Table 3: Population and Sample of Health Centers

The researchers adopted survey type of research in which samples of 400 respondents from patients and staff of health centers were selected from the sample frame of 3,153,083to fill questionnaires with regard to quality of health service provision of health centers and 229 employees were selected from 8,023sample frame employees of health centers to fill the questionnaire with regard to factors that affect the provision of quality health service using Taro Yemani(1967). The following Yaro Yemani (1967) formula is used:

$n = \frac{N}{1+N(e^2)} = n = \frac{3,145,060}{1+3,145,060(0.05^2)} = 400$ patients

$n = \frac{N}{1+N(e^2)} = n = \frac{8,023}{1+8,023(0.065^2)} = 229$ employees

Where n is sample size required, N is the size of the target population, is the margin error which is 0.05 and 0.065 for external clients and employees (internal customers) respectively. From the selected health centers (229): health officers, two nurses, one laboratory technician, one druggist from each selected health centers) and (2) administrative staff: one from finance and one from record office from each health center was selected purposively to fill questionnaires because it is believed that they have adequate knowledge about the subject. The total sample size for the study was 629(400 patients who accessed the health centers and 229 employees of health centers) and the study was used availability sampling method to select each respondent from patients and purposive sampling method to select the required number from employees.

3.4.2. Data Collection Instruments

The researchers were employed a self-administered questionnaire, interview, and observation as a primary source of collecting data from the respondents and selected health centers.

3.4.3. Questionnaire

A questionnaire was used because it is cheap, a large group of respondents is covered within a short time, it also allows in-depth research, to gain firsthand information and more experience over a short period of time (Earl-Babbie, 2013).Self-administered questionnaire is the survey in which respondents take responsibility for reading and answering the questions. It is considered as a superior mode for minimizing bias and improving response rates. Based on the literature review, new set of questionnaires was designed in Likert attitude scale for this study.

3.4.4. Interviews

The interview guide was used to collect the data. Interview is person to person verbal communication in which one person or a group of people is interviewed at a time. Interviews are used because they have the advantage of ensuring probing for more information, clarification and capturing facial expression of the interviewees (Barifaijo, Basheka & Oonyu, 2010). It is the most common method used in collecting data. The method is selected due to its greater flexibility in the questioning process, wide coverage (easily to collect data from literate and illiterate), control of interview situation and completeness of questions. Respondents for this study were included primary health care director from each selected health center selected purposively and clients of the health centers.

3.4.5. Observation

The systematic observation of organizational settings, team behavior, and interactions is especially useful in studying quality issues as it allows researchers to uncover everyday behavior rather than only relying on interview accounts. These methods are increasingly used in the study of organization and delivery of healthcare and can be especially useful in uncovering what really happens in particular healthcare settings.

3.4.6. Unpublished and Published Data

Secondary sources of data were obtained for additional information. The study relied on both unpublished and published data such as, articles from academic journals and the internet which are related to the topic. Sources of all secondary data are duly acknowledged at the reference section of the research.

Secondary information was gathered from different secondary sources such as reports, books, magazines, journals, newspapers and online databases via internet etc. These data are usually available, can be obtained quickly and inexpensive.

3.5. Data Analysis and Presentation

Data from questionnaires was analyzed using the descriptive statistical methods (mean and standard deviation) with the help of data analysis software - Statistical Package for Social Sciences (SPSS V-20) package which offers extensive data handling capabilities and numerous statistical analysis routines that can analyze small to very large data statistics (Muijis, 2004).All answers for open-ended question was grouped together if they have similarities and presented in a table.The statistical program was used in the calculation of descriptive statistics, frequency percentages, drawing of frequency tables and figures. This is well-suited for quantitative description. Analysis and explanations were made to give meaning to the collected data. The research model was developed by the researcher employing SERVQUAL model which has been developed by Parasuraman et al. (1988) to measure healthcare quality. Dimensions of health service quality were measured using 26 items.

3.6. Exclusion Criteria

Due to the difficulty of getting the consent and lack of tolerance of the pain or illness, very seriously ill patients were excluded from filling the questionnaires. Similarly, children who were under 18 years also not participated in the study.

3.7. Ethical Consideration

As a researcher ethical consideration is given due emphasis due to the societal, political, and religious sensitivity. In addition to this, some ethical principles and standards were considered. Before the beginning of datacollection participants were informed that they had a right to withdraw from the study at any time. In addition, the aim of the study was clearly stated to them that it is for improvement of health service quality of health centers of the region and no one is forced to be a participant in this research. It was only by the willingness of the respondents that they could be selected as participants of the study. The research was conducted by Oromia State university researchers and sponsored by Oromia Health Bureau. Moreover, the issue of confidentiality was taken into consideration. Hence, after gaining verbal consents, the questionnaires were administered and interviews were conducted.

3.8. Reliability of Data

Regarding reliability of the questionnaire, a Cronbach Alpha for each dimension was computed to check internal consistency. As shown in Table 1, Cronbach Alpha in this study ranged from (0.743-0.874). It is obvious that all values of alpha are high which indicates that for each measure of variable, the items are highly correlated, andhence highly consistent.

Variables	Number of Items	Cronbach's Alpha
Service Quality Dimensions		
Tangible	8	0.743
Reliability	4	0.829
Responsiveness	5	0.862
Assurance	4	0.866
Empathy	5	0.874
Total	26	0.835
Client's satisfaction	13	0.900

Table 4: Reliability Test (Cronbach's Alpha for Measures of Variables)
Source: Primary Data, 2018

Cronbach's alpha coefficient for service quality dimensions'instrument was found as greater than 0.743and 0.900 for clients' satisfaction which is highly reliable. Typically, an alpha value of 0.70 or higher is taken as a good indication of reliability, although others suggest that it is acceptable if it is 0.67 or above (Co-hen et al., 2007). This shows that research variables are reliable and there exists internal consistency between them.

4. Data Presentation, Analysis and Discussion

4.1. Introduction

Following data collection, the data needs to be critically analyzed. For any research, data analysis is very important as it provides an explanation of various concepts, theories, frameworks and methods used. It eventually helps in arriving at conclusions and proving the hypothesis (Kalpesh, 2013). Data analysis is the process of evaluating data using analytical and logical reasoning to examine each component of the data provided. Data from various sources is gathered, reviewed, and then analyzed to form some sort of finding or conclusion. (http://www.businessdictionary.com)

This chapter covers the presentation and analysis of the data used in the study. It shows the findings of the study which seek to answer the research questions vis-à-vis the study objectives. The core issues of the research which are assessment of health service quality of health centers in Oromia regional government were analyzed in this chapter. The chapter identifies the quality of health service provision, factors that affect quality of health service provision and overall satisfaction of clients.

4.2. Respondent's Demographic Characteristics

The researchers distributed a total of 400questionnaires during the study period out of which only 351 were returned with 88.75% of return rate, 16 questionnaires were not returned with 4% of unreturned rate and 33questionnaires were discarded due to missing data. Therefore, 351questionnaires were used for data analysis for the study as respondents. To this end, some indicators of the characteristics of the respondent such as sex, age, marital status, education level, income level, residence area have been identified in the study and the results were presented, analyzed and interpreted in the following manner:

		Frequency	Percent (%)
Educational background of the respondents	Illiterate	59	16.8
	1-8	74	21.1
	9-12	86	24.5
	Diploma	75	21.4
	First Degree & above	57	16.2
	Total	351	100
Residence of respondents	Urban	211	60.1
	Rural	140	39.9
	Total	351	100
Occupation of the respondents	Gov't employee	140	39.9
	Farmer	106	30.2
	Business	52	14.8
	Student	33	9.4
	Other	20	5.7
	Total	351	100
Age of respondents	18-29	211	60.1
	30-39	104	29.6
	40-49	26	7.4
	50 and above	10	2.8
	Total	351	100

		Frequency	Percent (%)
Gender of respondents	Male	208	59.3
	Female	143	40.7
	Total	351	100
Monthly income of the respondents	<1,000	121	34.5
	1,000-2,000	69	19.7
	2,001-3,000	59	16.8
	>3,000	102	29.1
	Total	351	100
Reason for visiting health center	Illness	144	41
	Family planning	20	5.7
	Vaccination	23	6.6
	Assistant(helper)	89	25.4
	Delivery	21	6
	Antenatal care	4	1.1
	other	50	14.2
	Total	351	100

Table 5: Demographic Details of the Respondents
Source: Primary Data, 2018

From Table 5 above, it can be seen that the majority (i.e. 59.3%) of the respondents are male and 40.7% of the respondents are female. This may show that males have better habit in visiting health center than female for different reasons and 16.2% of the respondents are of first degree and above holders, 21.4% of the respondents have got diploma, 24.5% of respondents attended high school, 21.1% of the respondents attended grade 1-8 and the remaining 16.8% of the respondents are illiterate. These show that majority (i.e. 62.4%) of the health center service beneficiaries(users)education level is high school and below. Most of the clients (60.1 percent) are found in the age group of 18–29 years; majority (i.e. 54.2%) of health center service beneficiary's monthly income were less than 2,000; 60.1 percent clients were coming from urban areas& the remaining 39.9 percent were from rural; 41 percent of the clients were visit the health centers because of illness; 39.9 percent of health center service users are government employees followed by farmers (i.e.30.2%).Thus it can be concluded that the users of health center services are adults, government employees and urban residents those having better awareness regarding health care and people with low income.

4.3. Descriptive Results

Data was analyzed using descriptive statistical methods (mean & average mean). Table 6. below show the means and average mean values of (26) quality service variables used in this study representing five service quality dimensions, and the 13 items of overall clients' satisfaction with respect to health centers service provision.

Variable	Mean	Rank
Tangible	3.06	5
Reliability	3.29	2
Responsiveness	3.15	4
Assurance	3.30	1
Empathy	3.23	3
Total	3.20	
Client Satisfaction	3.05	

Table 6: Average Mean of SERVQUAL Variables
Source: Primary Data, 2018

According to table 6, the average value of the respondents with respect to health service quality level was ranging from (3.06 to 3.30). The results for assurance dimension indicated highest health service quality with mean (3.30) followed by reliability dimension with mean (3.29), empathy dimension with mean (3.23), responsiveness dimension has the fourth rank after empathy dimension with mean (3.15) and tangibles dimension has the fifth rank indicated lowest rank with mean (3.06). Where dimension of overall clients' satisfaction was at average level with mean (3.05).

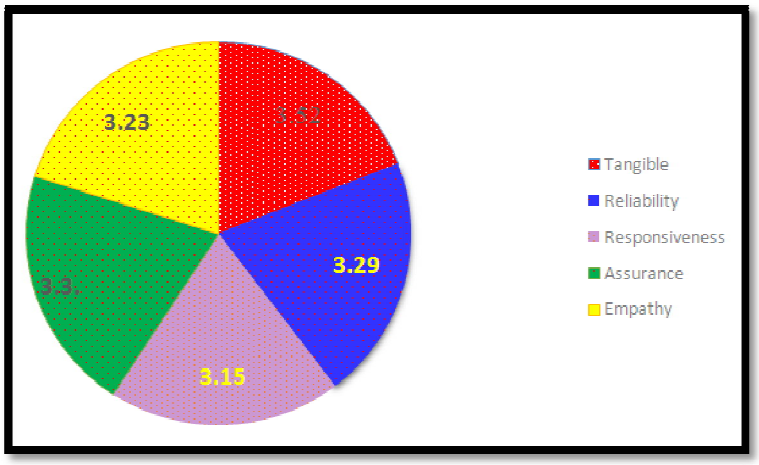

Figure 2: Average Mean of SEVQUAL
Source: Primary Data, 2018

The above pie chart clearly depicts that the five quality service dimensions. Accordingly, assurance dimension having a mean average 3.3, reliability dimension with an average mean 3.29, empathy dimension with average mean 3.23, responsiveness dimension with an average mean 3.15 and tangible dimension with an average mean 3.52.

4.3.1. Descriptive Statistics Results of Specific Health Service Quality Dimensions Attribute

	1. Tangible	N	Mean	Frequency (%)		
				A	Av.	DA
1.1.	Employees appear nice (Neat appearance staffs)	351	3.43	48.1	33.6	18.2
1.2.	Necessary health facilities are available (lab. Equipment, bed room, tools, buildings etc.)	351	2.75	23.7	35.9	40.4
1.3.	The health center examination room, latrines/toilet, compound etc. are clean.	351	2.99	31	36.8	32.2
1.4.	Appropriate environment for taking a rest (waiting room, chairs, TV area etc.) are available.	351	3.12	41	29.1	29.9
1.5.	Prescribed medicine is always available.	351	2.68	24.2	32.2	43.5
1.6.	Location of the health center is convenient (transportation, distance from residence).	351	3.38	51.6	25.9	22.5
1.7.	There are adequate signs/indicators of directions.	351	3.15	44.4	25.5	23.1
1.8.	Basic infrastructures are available (potable water, light, public telephone etc.)	351	2.97	36.2	25.9	37.9
	Total		3.06			

Table 7: Descriptive Statistics Results Tangibles Attributes
Source: Primary Data, 2018

Results from Table9 showed that from the eight listed tangible attributes respondents are disagreed with regard to prescribed medicine is always available (43.5%), necessary health facilities are available: laboratory equipment, bed room, tools, buildings etc. (40.4%), and basic infrastructures are available: potable water, light, public telephone etc. (39.7%).

While respondents agreed with regard to attributes of location of the health center is convenient: transportation, distance from residence(51.6%), employees appear nice-neat appearance staffs (48.1%), adequacy of signs/indicators of directions (44.4%), and appropriate environment for taking a rest-waiting room, chairs, TV area etc. are available (41%). Majority (36.8%) of the respondents indicated that the health center examination room, latrines/toilet, compound etc. are clean are at average level and 32.2% (mean=2.99) of the respondents disagreed that the health center examination room, toilet, compound etc. are clean. Observation result also affirmed that the existence of poor sanitation of compound, toilet and rooms of the health centers.

Figure 3: Sanitation Problems of Health Centers

Thus, it can be concluded that lack of prescribed drugs, absence of basic infrastructures, and shortage of necessary facilitates and poor sanitations at health centers are the basic problems as perceived by respondents which hamper provision of tangible quality health care services. Tangibles are the dimension with the lowest scores in terms of service quality as perceived by respondents.

Figure 4: Materials' Resource Management Problem, Which Has Been Observed at West Arsi Zone, Kore Health Center

Figure 5: Expired Medicine Handling and Disposal Problems

Figure 6: Impure Free Shelf

Figure 7: Unorganized Material Handling

From Table 4. 4, it can be seen that respondents are in agreement to the attributes of reliability.The health center keeps confidential customer recordsat 61.8% (mean = 3.61), health center's employees solves patient's problem sincerely at 47.3% (mean=3.25), health center provides service on timeat 41.3% (mean=3.20) and health center performs service accurately/without error at 38.2% (mean=3.13) respondents agreed that the health service provision of the health centers of the region was reliable.

		N	Mean	Frequency (%)		
	2. Reliability			A	Av.	DA
2.1.	Health center performs service accurately/without error	351	3.13	38.2	32.5	29.3
2.2.	Health center provides service on time	351	3.20	41.3	30.8	27.9
2.3.	Health center's employees solves patient's problem sincerely	351	3.25	47.3	24.8	28.9
2.4.	The health center keeps confidential customer records	351	3.61	61.8	21.4	16.2
	Total		3.29			

Table 8: Descriptive Statistics Results of Reliability Attributes
Source: Primary Data, 2018

From Table 4. 4, it can be seen that respondents are in agreement to the attributes of reliability. The health center keeps confidential customer record sat 61.8%(mean = 3.61), health center's employees solves patient's problem sincerely at 47.3%(mean=3.25), health center provides service on timeat 41.3%(mean=3.20) and health center performs service accurately/without error at 38.2%(mean=3.13) respondents agreed that the health service provision of the health centers of the region was reliable.

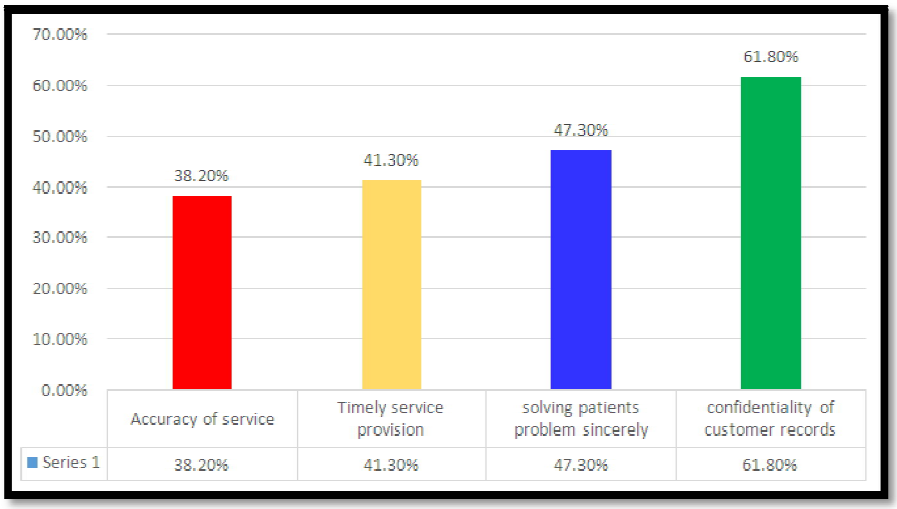

Figure 8: Reliability of Health Service Provision
Source: Primary Data, 2018

Hence, it can be concluded that health provision of health centers is reliable.

		N	Mean	Frequency (%)		
	3. Responsiveness			**A**	**Av**	**DA**
	Health center's employees are always willing to serve/help patients.	351	3.07	39.3	27	33
	Health center's employees are always available to respond to patients' requests.	351	3.19	36.5	33.3	30.2
	The health center's employees respond quickly to customers	351	3.16	38.5	34.2	27.4
	The health center is flexible to respond according to demands of customers	351	3.18	40.2	33.9	25.9
	Information about service easily obtained by customers from health center.	351	3.19	42.5	31.3	26.2
	Total		3.15			

Table 9: Descriptive Statistics Results Responsiveness Attributes
Source: Primary Data, 2018

From the results obtained from the above Table9, 42.5% respondents agreed that easily information obtain by client was one of the factors that clients acknowledged that information was easily obtained rating it the highest percentage than all the others. Whereas, 27% of clients were neutral, 33% disagree that information about service obtained easily by customers from health center. The table also depicted that respondents are in agreement that health centers are flexible to respond according to demands of customers at 40.2%(mean=3.18). This attribute was also ranked next to accessibility of information by the respondents. 39.3% (mean=3.07) of respondents agree that employees are always willing to serve/help patients, 33% disagree, and 27% of the respondents were average with respect to willingness to serve clients. Again, 36.5% was the least to agree that health center employees are always available to respond to client's requests. 30.2% of clients however disagree to this fact.

Furthermore, qualitative data affirmed that non-availability of employees, ethics of the employees and not respecting working hours are the basic factors affecting the responsiveness of the health centers.

		N	Mean	Frequency		
	4. Assurance			**A**	**Av**	**DA**
	Health center's employees treat patients with courtesy and respect	351	3.30	46.5	27.9	25.6
	Patients feel confident when receiving medical treatment.	351	3.25	44.2	31.6	24.2
	Staff are Skillful and knowledgeable to provide health care.	351	3.44	53	27.9	29.1
	Health center's employees respond to a patient faithfully/carefully	351	3.28	47.9	28.8	23.3
	Total		3.30			

Table 10: Descriptive Statistics Results Assurance Attributes
Source: Primary Data (2018)

As indicated in the table4.6 above, majority (i.e. 53%) of the respondents agreed that Oromia health centers employees has skillful and knowledgeable to provide health care whilst 29.1% are with the view that the health centers do not have enough skills and knowledge. The table also indicates respondents were in agreement that employees respond to patients carefully (47.9%), employees treat patients with courtesy and respect (46.5%) and patients feel confident when receiving medical treatment (44.2%). This implies that assurance is the first ranked dimension where clients' satisfaction is higher comparing with other dimensions.

	N		Mean	Frequency (%)	
5. Empathy			**A**	**Av**	**DA**
Operating hours and days are convenient to patients.	351	3.28	45	31.6	23.4
The health center's employees give patients individual attention	351	3.27	46.7	29.6	23.6
The health center's employees understand customers specific needs	351	3.16	40.7	32.5	26.7
The health center takes into account the traditions prevailing in society	350	3.33	47.3	31.1	21.7
The health center staff response to patients' complaints	351	3.11	39	33	27.9
Total		3.23			

Table 11: Descriptive Statistics Results Empathy attributes
Source: Primary Data, 2018

From the table above, 47.3% & 46.7% respondents recorded the highest clients that agree that Oromia regional state health center employees takes in to account the traditions of the society and gives individual attention to clients respectively. Whilst 21.7% of the respondents disagreed that health centers do not respect the tradition of the society and 31.1% is average to this factor. Respondents also agreed that operating hours and days are convenient to patients at 45%, employees understand customer's specific needs at 40.7%. The least percentage recorded were 39% of respondents for staff response to patients' complaints. However, 27.9% also disagree and 33% are average to these factors. Thus, it can be concluded that empathy is the highest ranked dimension next to assurance where clients' satisfaction is higher comparing with other dimensions and empathy is another dimension for patient satisfaction, cause the staff is relatively sensitive, polite which can sincerely have worried for their patients.

	Frequency (%)		
Overall Client's Satisfaction	Satisfied	Average	Dissatisfied
Registration(recording) process of the health center	49	26.5	24.5
Availability of drugs and supplies	23.4	30.2	46.4
General medical service	34.8	35.3	39.9
Cleanliness and comfort of the waiting area, examination room and the compound.	29.6	45.6	24.8
Level of patients care	28.8	41.9	39.4
Pharmacy service	31.6	37.3	31.1
Laboratory service	40.5	29.3	30.2
Ambulance service	41.6	37	21.4
Staff politeness	37.3	42.2	20.5
Ethics of health professionals	35.9	41.6	22.5
Ethics of non-health professional employees	33.6	41.9	24.5
Community health insurance service	39.3	34.5	26.2
Overall health services provided by health center	28.2	28.8	43
Total			

Table 12: Descriptive Statistics of Overall Client's Satisfaction
Source: Primary Data, 2018

From Table 12, customers of health centers were rated highest satisfaction with the registration(recording) process of the health center (49 percent); ambulance service (41.6 percent), laboratory service (40.5 percent), and ethics of non-health professional employees (33.6 percent). Highest rate of dissatisfactions was expressed by respondents with availability of drugs and supplies(46.4 percent) and community health insurance service(43 percent).The clients of health centers are neither satisfied nor dissatisfied with regard to the following: cleanliness and comfort of the waiting area, examination room and the compound (45.6 percent),staff politeness (42.2 percent), level of patient's care(41.9 Percent), ethics of health professionals (41.9 percent), pharmacy service (35.7 percent), general medical service (35.5 percent). The respondents were dissatisfied with overall health services provision of health centers (43%).

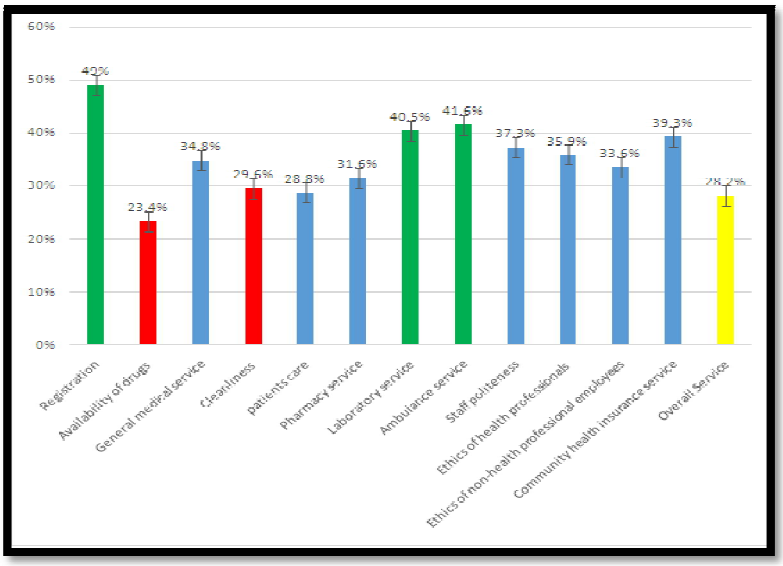

Figure 9: Overall Customer Satisfaction
Source: Primary Data, 2018

As has been depicted in the graph above, from a total of the presumed 13 factors, Availability of drugs and supplies (23.4%), level of patients cares(28.8%) and cleanliness and comfort of the waiting area, examination room and the compound (29.6%) have been perceived by respondents as the major dissatisfying factors in health centers of the region. When clients were questioned on pleasure on the overall services provided by health centers, about 28.2% were satisfied/very satisfied, 28.2% were average and the remaining 43% of the respondents were dissatisfied with the overall service provision of the health centers. Thus, it can be inferred that the overall service provision of health center of the region is dissatisfactory.

4.4. Characteristics of the Respondents with Respect to Factors Affecting Quality Health Service Provision

With respect to factors affecting the health service quality of health centers the researchers distributed questionnaires to 229 respondents in sample of 6 zones of 40 health centersof the region. One hundred seventy-seven of the respondents (77.3%) have filled and returned the questionnaires properly. The questionnaires were distributed to and filled by health officers, druggist/pharmacist, midwifery, BSc nurses, laboratory technicians, and other non-health professional staff of the selected health centers. The characteristics of the respondents are presented below as follows in terms of office, position, gender, experience and education level.

		Frequency	Percent (%)
Educational background of the respondents	Diploma	93	52.5
	First degree and above	84	47.5
Residence of respondents	Urban	138	78.0
	Rural	39	22.0
Profession of the respondents	Other	17	9.6
	Midwifery	30	16.9
	Druggist/pharmacist	24	13.6
	Laboratory Technician	35	19.8
	BSc Nurse	31	17.5
	Health officer	40	22.6
Age of respondents	18-29	114	64.4
	30-39	55	31.1
	40-49	4	4
	50 and above	1	0.6
Gender of respondents	Male	96	54.2
	Female	81	45.8
Monthly income of the respondents	<1000	3	1.7
	1,000-2,000	10	5.6
	2001-3,000	52	29.4
	>3,000	112	63.3

Table 13: Demographic Details of the Respondents
Source: Primary Data, 2018

From Table 13 above, it can be seen that the majority (i.e. 54.2%) of the respondents are male and 45.8% of the respondents are female. This shows that, the proportion of female and male respondents were nearly and 47.5% of the respondents are of first-degree holders, 52.5% have got diploma. These show that majorities of the respondents were educated and experienced professionals. From the total respondents 22.6% were health officers, 17.5% were BSc nurse, 19% were from laboratory technicians, 16.9% were midwifery, 13.6% were druggist/pharmacist and the remaining 9.6% were staff other than health professionals. Table 6, also reveals that 63.3% of the respondents 'monthly income is greater than ETB3,000, 29.4% have got monthly income of ETB2,001-3,000, 5.6% of the respondents earn a monthly salary of ETB1,000-2000 and the remaining 1.7% of the respondent are paid monthly income of less than ETB 1,000.These show that monthly income of the employees are not attractive as compared to the existing market situation of the region.

4.5. Data Analysis with Respect to Factors Affecting Quality Health Service Provision

Here the study used William G. Zikmund (1997: p 440-451), method of transformation of data from its original form to a format that is more suitable to perform data analysis that will achieve the research objectives. According to William G. Zikmund, the "strongly agree" response category and the "agree" response categories have to combine and form a new single category. The "strongly disagree" and the "disagree" response categories have also to be combined into single category. In this study f*ive-point scales were used with the following anchoring: 5=strongly Agree 4= Agree; 3=Neutral; 2=disagree; 1=strongly disagree.* This results in the "collapsing" of the five-category scale down to three. Using this transformed data Likert's summative score for an opinion scale with three statements is calculated in the following manner.

Grand mean of the response is calculated as: $\mu = \frac{5*(f5) + 4*(f4) + 3*(f3) + 2*(f2) + 1*(f1)}{\text{Total number of respondents}}$

Where: μ = Grand mean

f = frequency of the values

If the grand mean (μ) is greater than three (> 3), it is assumed as the respondents are slightly agreeing. If the grand mean is less than three (<3), it is assumed as the respondents are slightly disagreeing. Finally, if the grand mean is exactly three (= 3), it is assumed as the respondents are not willing to give any response.

The following are summaries of the level of agreement or disagreement of respondents with respect to factors affecting health service quality of health centers.

No.			Count	Percent %	Total points	Mean (μ)
1	Patient education and responsibility influences healthcare services	Strongly agree	36	20.3	632	3.57
		Agree	67	37.9		
		Average	49	27.7		
		Disagree	12	6.8		
		Strongly disagree	13	7.3		
		Total	177	100		
2	Information provided by clients affect quality of health service.	Strongly agree	19	10.7	579	3.27
		Agree	67	37.9		
		Average	49	27.7		
		Disagree	27	15.3		
		Strongly disagree	15	8.5		
		Total	177	100		
3	Lack of client's cooperation in the treatment process affects quality of health service (providing information, follow medical orders)	Strongly agree	46	26.0	660	3.73
		Agree	68	38.4		
		Average	41	23.2		
		Disagree	13	7.3		
		Strongly disagree	9	5.1		
		Total	177	100		
4	The client's attitude and behavior affect the attitudes of care-givers and quality service.	Strongly agree	37	20.9	622	3.51
		Agree	61	34.5		
		Average	52	29.4		
		Disagree	10	5.6		
		Strongly disagree	17	9.6		
		Total	177	100		
	Total				2,493	14.08
	Grand mean				3.52	

Table 14: Patients Related Factors Affecting HSQ
Source: Primary Data, 2018

As it can be seen from the Table 14 above, from the total of 4patients related factors stated in the questionnaire, lack of patient cooperation in the treatment process, providing information, follow medical orders (average mean= 3.73),patient education and responsibility (average mean= 3.57), patient's attitude and behavior of health service providers (average mean=3.51) and information provided by patients(average mean = 3.27)have been found to be factors that affect quality of health service provision.

No.			Count	Percent %	Total points	Mean (μ)
1	The character and personality of healthcare provider affect the quality of health center services	Strongly agree	55	31.1	668	3.77
		Agree	64	36.2		
		Average	35	19.8		
		Disagree	9	5.1		
		Strongly disagree	14	7.9		
		Total	177	100.0		
2	Health service providers' personal and family problems influence their behavior and the quality of services provided to patients.	Strongly agree	34	19.2	644	3.63
		Agree	80	45.2		
		Average	38	21.5		
		Disagree	15	8.5		
		Strongly disagree	10	5.6		
		Total	177	100.0		
3	Attitude, knowledge and skills of health professionals affect the quality of health center services	Strongly agree	74	41.8	709	4.00
		Agree	61	34.5		
		Average	22	12.4		
		Disagree	9	5.1		
		Strongly disagree	11	6.2		
		Total	177	100.0		
4	Health service providers' job satisfaction affect quality services in delivering to patients	Strongly agree	58	32.8	681	3.85
		Agree	68	38.4		
		Average	27	15.3		
		Disagree	14	7.9		
		Strongly disagree	10	5.6		
		Total	177	100.0		
5	Health professional attrition or turnover affect quality of health services.	Strongly agree	41	23.2	653	3.69
		Agree	78	44.1		
		Average	32	18.1		
		Disagree	14	7.9		
		Strongly disagree	12	6.8		
		Total	177	100.0		
6	Employee (health professional) commitment affects quality of health services	Strongly agree	67	37.9	692	3.90
		Agree	59	33.3		
		Average	29	16.4		
		Disagree	12	6.8		
		Strongly disagree	10	5.6		
		Total	177	100.0		
	Total				4,047	22.84
	Grand Mean				3.81	

Table 15: Employees Related Factors Affecting HSQ
Source: Primary Data, 2018

Table 15above illustrates the mean of organizational factors affecting women's participation in leadership positions. The mean of all attributes (6) of health center employees related factors are greater than 3 and believed by the respondents as they are affecting the quality of health service provision at health centers of Oromia regional state.

The table shows the mean for attitude, knowledge and skills of health professionals of health center, employee (health professional) commitment of health center and health service providers' job satisfaction is 4.00, 3.90 and 3.85respectively which means that the contributions of such factors are significant in affecting the quality of health service provision as perceived by respondents. Factors such as character and personality of healthcare provider of health center (average =3.77), health professional turnover(average=3.69)and health service providers' personal and family problems

(average=3.63) also influence the quality of health provision. Thus, it can be inferred that from six employee related factors attitude, knowledge & skills of employee (76.3%), health professional commitment (71.2%) and health service providers' job satisfaction (71.2%) are the major factors affecting health service provision quality of health centers.

No.			Count	Percent %	Total Points	Mean (μ)
1	Shortage of resources affects the quality of health center service. (human resource, medical supplies etc.)	Strongly agree	89	50.3	731	4.13
		Agree	43	24.3		
		Average	32	18.1		
		Disagree	5	2.8		
		Strongly disagree	8	4.5		
		Total	177	100		
2	Poor health center management affects the quality of health center service. (management stability, professional manager, experience, knowledge etc.)	Strongly agree	72	40.7	716	4.04
		Agree	63	35.6		
		Average	28	15.8		
		Disagree	6	3.4		
		Strongly disagree	8	4.5		
		Total	177	100		
3	Lack of cooperation and teamwork among healthcare providers influence quality of health center services.	Strongly agree	72	40.7	717	4.05
		Agree	65	36.7		
		Average	25	14.1		
		Disagree	7	4.0		
		Strongly disagree	8	4.5		
		Total	177	100		
4	Lack of collaboration between health center organization and other organizations influence service quality.	Strongly agree	40	22.6	648	3.67
		Agree	65	36.7		
		Average	52	29.4		
		Disagree	12	6.8		
		Strongly disagree	8	4.5		
		Total	177	100		
5	Poor implementation of reform tools in health centers affect quality of health services.	Strongly agree	65	36.7	697	3.93
		Agree	61	34.5		
		Average	33	18.6		
		Disagree	11	6.2		
		Strongly disagree	7	4.0		
		Total	177	100		
	Total				3,509	19.82
	Grand Mean				3.96	

Table 16: Organizations Related Factors Affecting HSQ
Source: Primary Data, 2018

As has been depicted in the Table 16above, from a total of the presumed 05 Health center Organizations related factors, shortage of resources like human resource, medical supplies (average mean=4.13),lack of cooperation and teamwork among healthcare providers of health center (average mean=4.05),, poor health center management of health center: management stability, professional manager, experience, knowledge (average mean=4.04),Poor implementation of reform tools in health centers (average mean=3.93) and lack of collaboration between health center organization and other organizations (average mean=3.67)have been perceived by participants as the major factors affecting quality of health service provision at health centers.

4.6. Analysis of Results in General

The following figure summarizes the overall results of factors affecting quality of health service provision categorizing in to three major factors i.e.patient's related factors, employees related and organizational related factors.

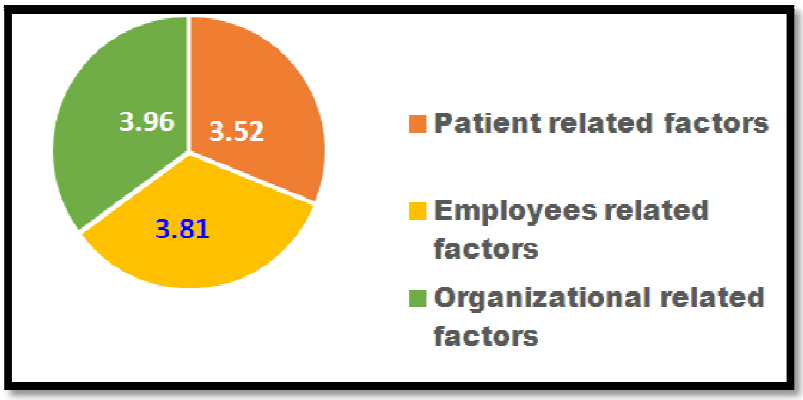

Figure 10: Factors Affecting Quality of Health Service Provision as Perceived by *Respondents*
Source: Primary Data, 2018

The above pie chart clearly depicts that the major factors and their share of influence in affecting health service quality. Accordingly, organizational related factors having a mean average 3.96, employee related with an average mean 3.81, and organizational related factors with an average mean 3.52.Thus, it can be concluded that quality health service provision of health centers is primarily affected by organizational related factors followed by employees related factors and clients related factors.

5. Conclusion and Recommendations

5.1. Introduction

Under this part of the paper, the summary of finding, conclusions and the recommendations are presented. Based on the analysis made in chapter four, the following summary and conclusions are made on assessment of quality of health service in Oromia regional state health centers.

5.2. Conclusion

The aim of this study was to assess health centers service quality (reliability, responsiveness, tangibles, assurance, empathy) and factors affecting health service provision at Oromia regional state health centers.
Major conclusions of this study are as follow:

- Results show that the health service quality practices as slightly greater than average. It was noted that assurance dimension has the highest mean and first category, followed by reliability dimension, empathy dimension, responsiveness dimension and tangible dimension has the lowest mean and category out of other service quality dimensions.
- Results show that the overall client's satisfaction was at average level. Clients were satisfied with the registration process, laboratory service and ambulance services provided in the health centers. Clients were dissatisfied with the availability of drugs and supplies and with the overall health services provided by health center.
- Clients were moderately satisfied with cleanliness and comfort of the waiting area, examination room and the compound, level of patients' care, pharmacy service, staff politeness and with ethics of employees.
- In most of Oromia regional state rural health center shortage of water was observed as a common problem.
- Organizational factors such as shortage of resources, poor health center management, lack of cooperation and teamwork among healthcare providers were the major factors affecting the provision of quality health service and followed by employee of health center related and clients related factors.
- Due to the uniformity of organizational structure, in some rural health centers inflexibility with need of customers (clients) is observed as a gap.
- In almost all of Oromia region health centers, lack of Information Communication Technology (ICT) or computer supported service system was identified as a gap
- In most of Oromia region health centers, shortage of pharmacy professionals (druggist) and excessive workload in the area was identified as a problem.
- Attitude, knowledge and skills of health professionals are the major factors affecting the quality of health center services followed by employee (health professional) commitment and health service providers' job satisfaction.
- In almost all Oromia region health centers sanitation issues was identified as a management problem.
- Lack of patient cooperation in the treatment process is one of the major factors affecting quality of health service (providing information, follow medical orders).
- It was noted that majority of the respondents who took part in this research was male gender (59.3%), between ages 18- 29 years (34.2 %). Result showed that (83.8%) of the respondents hold diploma or less, having low income and majority residence were in the urban.
-

5.3. Recommendations

The researcher suggests that a moderate level of both the health service quality practices and overall patient satisfaction at Oromia regional state should be improved. The following are the main suggestions:

- The government body at different level should improve the supply of medicine so as to improve quality of health service.
- Health center administration is recommended to pay special attention to clients care by providing training on customer's service delivery and ethics.
- Health centers administration is recommended to regularly assess quality of health service provision and satisfactions level through surveys, which could then be used to improve the quality of health care and overall client satisfaction.
- Health centers administration is recommended to improve the sanitation of the health centers by implementing kaizen management philosophy.
- In order to improve quality of health service, the health centers with concerned body should alleviate shortage of resources affecting quality of health service provisions
- To enhance service quality at health centers Oromia Health Bureau recommended to work on the implementation of ICT based services system
- Health center administration is recommended to revise organizational structure in context of health centers clients need.
- In order to avoid excessive workloads, the health center administration recommended moderately improving its human resource management approach.

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Appendix

Questionnaire

Oromia State University

Office of V/P for Reform, Research and Community Service

Research Questionnaire

Dear respondents!

This questionnaire is prepared to collect data for the research titled "An assessment of health service quality ofpublic health centers in Oromia Regional state." The objective of this study is to assess health service quality and factors affecting provision of quality health service by public health centers in Oromia regional State. Your response is kept highly confidential and used only by the researcher for analysis. Read carefully each question and try to answer according to your knowledge, experience and belief. Dear respondents we would like to express our deepest appreciation for your time, honest and prompt responses.

Note: You should not mention your name.

Part-I: Respondents General Information

Please put Tick mark (✓) in the appropriate response in the spaces provided.

Age: 18-29 ☐ 30-39 ☐ 40-49 ☐ Greater 50 ☐

Sex: Male ☐ Female ☐

Residence: Urban ☐ Rural ☐

Education: Illiterate ☐ 1-8 ☐ 9-12 ☐ Diploma ☐ Degree and above ☐

Occupation: Employee ☐ Farmer ☐ Business person ☐ Students ☐ Other ☐

Monthly Income of respondent :< 1,000 ☐ 1,000-2,000 ☐ 2001-3,000 >3,000 ☐

Reason for visit: Illness ☐
Family planning ☐
Vaccination ☐
Care giver ☐
Delivery ☐
Antenatal care ☐
Other

PART II. Health Service Quality

Section A: Using a rating scale of 1 to 5 please indicate your level of agreement/disagreement about health service quality of health centers by putting tick mark"✓" under the appropriate number.

1=Strongly Disagree 2=Disagree 3 = Average 4=Agree 5= Strongly Agree

No.	Quality Dimension	1	2	3	4	5
I	Tangibility					
TAN1	Employees appear nice (Neat appearance staffs)					
TAN2	Necessary health facilities are available (lab. Equipment, bed room, tools, buildings etc.)					
TAN3	The health center examination room, latrines/toilet, compound etc. are clean.					
TAN4	Appropriate environment for taking a rest(waiting room, chairs, TV area etc.) are available.					
TAN5	Prescribed medicine is always available.					
TAN6	Location of the health center is convenient (transportation, distance from residence).					
TAN7	There are adequate signs/indicators of directions.					
TAN8	Basic infrastructures are available (potable water, light, public telephone etc.)					
II	Reliability					
REL1	Health center performs service accurately/without error					
REL2	Health center provides service on time					
REL3	Health center's employees solves patient's problem sincerely					
REL4	The health center keeps confidential customer records					
III	Responsiveness					
RES1	Health center's employees are always willing to serve/help patients.					
RES2	Health center's employees are always available to respond to patients' requests.					
RES3	The health center's employees respond quickly to customers					
RES4	The health center is flexible to respond according to demands of customers					
RES5	Information about service easily obtained by customers from health center.					
IV	Assurance					
ASS1	Health center's employees treat patients with courtesy and respect					
ASS2	Patients feel confident when receiving medical treatment.					
ASS3	Staff are Skillful and knowledgeable to provide health care.					
ASS4	Health center's employees respond to a patient faithfully/carefully					
V	Emphasis					
EMP1	Operating hours and days are convenient to patients.					
EMP2	The health center's employees give patients individual attention					
EMP3	The health center's employees understand customers specific needs					
EMP4	The health center takes into account the traditions prevailing in society					
EMP5	The health center staff response to patients' complaints					

Table 17

Section B: From the following statements please indicate your level of agreement which statements are influencing(affecting) the quality of health service provision of health center by putting tick mark"✓" under the appropriate number.
(To be filled only by employees of health center)

1=Strongly Disagree 2=Disagree 3 = Average 4=Agree 5= Strongly Agree

No.	Factors	1	2	3	4	5
	Patient related factors (Interaction between a provider and the patient)					
1.	Patient education and responsibility influences healthcare services					
2.	Information provided by patients affect quality of health service.					
3.	Lack of patient cooperation in the treatment process affects quality of health service (providing information, follow medical orders)					
4.	The patient's attitude and behavior affect the attitudes of care-givers and quality service.					
	Health Center employees related factors					
1.	The character and personality of healthcare provider affect the quality of health center services.					
2.	Providers' personal and family problems influence their behavior and the quality of services provided to patients.					
3.	Attitude, knowledge and skills of health professionals affect the quality of health center services					
4.	Health service providers' job satisfaction affect quality services in delivering to patients					
5.	Health professional attrition or turnover affect quality of health services.					
6.	Employee (health professional) commitment affects quality of health services.					
	Organizational factors					
1.	Shortage of resources affects the quality of health center service. (human resource, medical supplies etc.)					
2.	Poor health center management affects the quality of health centerservice. (management stability, professional manager, experience, knowledge etc.)					
3.	Lack of cooperation and teamwork among healthcare providers influence quality of health center services.					
4.	Lack of collaboration between health center organization and other organizations influence service quality.					
5.	Poor implementation of reform tools in health centers affect quality of health services.					

Table 18

Please list any other factor(s) that can affect the provision of quality health service at health center:_____

Section C: Indicateyour satisfaction/dissatisfaction level with the following service you received at the health center using 1-5 rate:

1= Very dissatisfied
2= dissatisfied
3= Neither satisfied nor dissatisfied
4= satisfied
5=Very satisfied

No.	Customer Satisfaction	VDS 1	DS 2	A 3	S 4	VS 5
CS1	How satisfied are you with registration(recording) process of the health center					
CS2	How satisfied are you with the availability of drugs and supplies					
CS3	How satisfied are you with general Medical Service					
CS4	How satisfied are you with cleanliness and comfort of the waiting area, examination room and the compound.					
CS5	How satisfied are you with level of patients care					
CS6	How satisfied are you with pharmacy service					
CS7	How satisfied are you with laboratory service					
CS8	How satisfied are you with ambulance service					
CS9	How satisfied are you with staff politeness					
CS10	How satisfied are you with overall health services provided by health center					
CS11	How satisfied are you with ethics of health professionals					
CS12	How satisfied are you with ethics of supportive employees					
CS13	How satisfied are you with community health insurance service?					

Table 19

1. Mention other health center service that dissatisfied you (if any).
   _____
2. What are your possible suggestions for service improvement of health center? -
   _____