

**GOVERNANCE OF PHARMACEUTICAL PRODUCTS AT
HEALTH FACILITIE LEVEL TOWARDS END USER
SATISFACTION:
THE CASE OF MBEYA CITY COUNCIL**

By

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Requirements for Award of the Master's Degree of Procurement and Supply
Chain Management (MSc. PSCM) of Mzumbe University
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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University a dissertation entitled **Governance of Pharmaceutical Products at Health Facility Level: The Case of Mbeya City Council**, in Partial/Fulfilment of the Requirements for Award of the Master's Degree of Procurement and Supply Chain Management (MSc. PSCM) of Mzumbe University.

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DEDICATION

This research report I dedicate to my beloved Wife Hawa Msola and My Daughter Gabriella J. Massawe for their prayers, love and care to me. Also, my parents and other family members for their support to make this succeeded

ABBREVIATIONS AND ACRONYMS

DHFF:	Direct Health Facility Financing
FEFO:	First Expire First Out
GOT:	Government of Tanzania
GPSA:	Government Procurement Services Agency
IMCI:	Integrated Management of Childhood Illnesses
KMO:	Kaiser-Meyer-Olkin
MCC:	Mbeya City Council
MoHCDGEC:	Ministry of health, Community development, Gender, Elder and Children
MSD:	Medical Store Department
PPA:	Public Procurement Act
SPSS:	Statistical Package for the social Science
URT:	United republic of Tanzania
USAID:	United State Agency for International Development
VIF:	Variance Inflation factor
VMI:	Vendor Managed Inventory
WHO:	World Health Organization

ABSTRACT

The aim of the study was to evaluate Governance of Pharmaceutical products at health facility level in Mbeya City Council. Specifically, the study aimed at assessing the process of procurement and receiving of pharmaceutical products; determining the factors of storage capabilities in provision of services to end user; identifying the factors of staff skills and competences as well as evaluating the health facility budget, its challenges and implementation of direct health facility financing for public facilities. The data were collected by using Questionnaire, Interviews, Observation and Document Review.

The researcher employed cross sectional design with the sample size of 150 respondents which was selected by using purposive sampling techniques. Data were collected and analysed both quantitatively and qualitatively by Descriptive statistics and multiple regression model assisted by SPSS version 21.

The study findings reveal a big difference between public and private health facilities in the process of procurement and receiving, as well as big and small facilities. Also, for the case of storage capabilities, it has revealed that, most of private and small public health facilities do not have capacity for storage of pharmaceutical products, and the budget is a challenge for public health facilities where both depends support from central government. Moreover, are staff skills and competences where most of staff lack training, teamwork, experience and are not involved in decision making for governance of pharmaceutical products.

The study also reveals the improved health system is vital to the Government having society that are assured with the services where the improved system will enhance each level of the facility to provide service accordingly, so having well and controlled pharmaceutical products at each level that will improve customer satisfaction

The study recommends the Government especially ministry of Health to have a policy for health system that will improve the control of Pharmaceutical products in the areas of Procurement, Receiving, Storage and Distribution of those products to patient for both public and private, large and small health facilities.

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CHAPTER ONE

BACKGROUND TO THE STUDY

1.1 Introduction

The aim of this chapter is to provide the preliminary information about the topic of study which is about Governance of Pharmaceutical Procurement and Supply in Health Facilities towards End User Satisfaction. The chapter consist the background of the study, statement of the problem, research questions, and significant of the study.

1.2 Background of the study

Pharmaceutical products are famous as medicine or drugs, are an essential component of both traditional and modern medicine. Where it is important that such goods are safe, effective, and of good quality and are approved and used reasonably¹

Health facility is an end element of the medicine or drugs supply chain. Supervision of pharmaceutical supply at the facility level straight affect the quality of health care where patient may lose confidence to repeat to attend the facility for treatment, if medicines are continuously absent, patient suffer and staff member lose incentives, everyone losses confidences in the health system and patient attendance decrease. (WHO 2015)

Pharmaceutical products follow the principles of inventory management as other inventory that are taken care as other manufactured products, perhaps the management of pharmaceutical product need careful consideration where the product are perishable in nature.(Management science for health 2012). A constant pharmaceutical supply promotes effective care to patients who are potential customers for the existence of the Health facilities, and encourages self-confidence in

¹ http://www.who.int/topics/pharmaceutical_products/en/

the organization, and supplements to job fulfilment and self-respect among employees.

For many decades' health facilities faces challenges to govern the selection, procurement, storage and issue the medicine to patient who attends the health facility. Currently not surprising for patient to lack medicine at health facility level as patient mostly told by service provider they run out of stock, so that the patient supposed to find alternative way to find the recommended medicine.

The governing of medicine demonstrates the main steps of proper control of medicines supply for selection, Procurement, storage and distribution in short the supply chain. Developed access to medicines can happen while balanced selection, reasonable prices, reliable health supply systems, and supportable financing existing (Management of science for Health 2012)

In order to ensure that medicine are of the required quality, safety and usefulness, there are rules in place throughout the entire medicine procurement and supply, In line with standards stipulated by legislation(WHO 2015) Therefore at facility level medicine must be procured, transported, stored under suitable conditions until the medicine reach the patient. At health service level there must be required stock that can help to meet customer (patient) demand where facility must avoid the under stocking and overstocking with the aim of improving efficiency and responsiveness.

The purpose is to provide superiority drugs at the lowest possible cost when needed. In adding to being accessible in the required quantities when needed, drugs have to be used reasonably. Drugs can be unusable and even harmful if not available when patient need it. Then serious health penalties, foolish drug use leads to waste, thus cumulative the cost of running a drug supply coordination. The implementation of the critical drugs concept, use of standard behaviour guidelines, monitoring of drug use and interventions for enhancements are all significant tools that should be keenly used.

Better access to medicines can happen when rational selection, reasonable prices, consistent health supply systems, and justifiable financing are present. Convenience of adequate and quality medicines and health commodities (medicines, medical supplies, reagents and equipment) at all levels of health care is a major step towards attaining better health services provision in the country. (URT National Health Policy 2017)

investments made by the Government of Tanzania (GOT) through the Ministry of Health, Community Development, Gender, Elderly, and Children (MOHCDGEC), United States Agency for International Development (USAID), and other donors and partners toward strengthening the public health supply chains in Tanzania has a positive impact on health and well-being of Tanzanians.

However, shortage of some medicines, medical supplies, reagents and equipment has remained a major public outcry across the country and in various health service institutions (URT National Health Policy 2017).

Community health product supply chains in Tanzania had major discrepancies and encounters in ordering and reporting of health commodities. This caused in numerous ordering systems, inadequate inventory control constraints, comparable supply chains, repetition of efforts, bureaucracy in ordering, and overextension of inadequate resources (USAID Tanzania deliver project 2016)

1.3 Statement of the Problem

There are number of studies for Supply chain management of pharmaceutical product all over the world, and Tanzania provide evidence of effort and commitments of the Government and other stakeholders towards improvement for the availability of pharmaceutical product at health facilities to ensure there is enough stock for the product to meet demand and hence patient obtain all recommended medicine at service level. In depth assessment of medicines supply chain system in Tanzania (MOHSW 2008), Public-Private partnership assessment (MSD, Coca-Cola and The

Global Fund) However, in Tanzania no study so far has sought to investigate at health facilities level how to govern pharmaceutical procurement and supply, which means the control of those products from the sourcing process, storage up to delivery of recommended medicine to patient. More comprehension about the extent of this limitation needs to be controlled on and appropriate approvals be made to ensure the improvement pharmaceutical supply at service level that helps to reduce patient complaints.

So that this study assesses the extent to which the health facilities should ensure the critical supply chain management in order to avoid those patient complaints but also staff comfort ability while providing services. The findings provide insight to the Government in health policy especially for pharmaceutical products.

In addition, knowledge that are to obtained from this study is to help formulation of strategies for pharmaceutical product at facility level to ensure the balance of inventory to avoid keeping those inventories under or over stock that means to balance the supply and demand, but also as the nature of the product to be perishable and mostly need special attention the study help to give out the solutions to insure safe stock keeping.

1.4 Research Objectives

This part is to define the purposes of the study. The part is divided into two segments. First presents the general objective and the second present specific objectives.

1.4.1 General Objective

To evaluate the Governance of pharmaceutical products at health facility level towards end user satisfactions

1.4.2 Specific Objectives

- i. To Assess the process of ordering and receiving of pharmaceutical products at health facility level
- ii. To evaluate the Health facility Budget and its challenges for procurement of pharmaceutical products.
- iii. To identify factors for health facility storage capabilities in provision of service to end user
- iv. To determine the staff skills and competences in Ordering, receiving and supply of pharmaceutical products for better services to end user

1.5 Research Questions

- i. What are the process of ordering and receiving of pharmaceutical product at health facility level?
- ii. What are the budget and its challenges for procurement of pharmaceutical products?
- iii. What are the factors for health facility storage capabilities?
- iv. What are the skills and competences of staff involved in provision of service to end user?

1.6 Significant of the Study

The study is applicable on the grounds that it show the process of ordering and receiving of pharmaceutical products, the storage capabilities of health facilities, the existing challenges that contribute to overstock and understock, skills and competences required for the department responsible for pharmaceutical products and the budget that facility set aside for acquiring of those products, and hence understand the governing of pharmaceutical procurement and supply at health facility towards customer satisfaction. Then the study useful for the Government of Tanzania to ensure the supply of pharmaceutical products and its control at the facility level are conducted at best practices to ensure avoidance of unnecessary cost

for overstocking but also patient to lack the products for under stocking. The study helps the health facilities to have the pharmaceutical products to meet the demand and supply.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter indicate the structure of review, it describes or recognize the overall topic, subject, or area of concern, thus providing a proper context for studying the literature. Idea out total trends in what has been published about the theme or struggles in theory, methodology, suggestion, and decisions or gaps in research and scholarship or a single tricky or new perspective of immediate attention. The chapter will be divided into three areas that is introduction where key terms are defined, main body where theoretical review and empirical review are narrated as well as conclusion and conceptual context.

2.2 Definition of key Terms

2.2.1 Pharmaceutical Products

Commonly known as medicine or drugs, are essential component of both current and traditional medicine (WHO 2015), that is all biological and drug contenders, mixtures or products being researched, tested, developed, produced or disseminated by the organization or any subsidiaries (EMA 2018). It is essential that such products are safe, effective, and of good quality, and are arranged and used reasonably (WHO 2015)

2.2.2 Procurement

Process of finding and acquiring of goods and or services as well works sometimes from an external source based on agreed terms under specified rules and procedures in form of tendering and bidding process to be awarded the contract. Eriksson & Westerberg, (2014) means buying, purchasing, renting, leasing or otherwise acquiring any goods, works or services by a procuring entity and includes all functions that pertain to the obtaining of any goods, works or services, including

description of requirements, selection and invitation of tenderers, preparation and award of contracts. PPA (2016) However procurement is purchasing, contracting, and logistics, where logistics is taken to be inventory mechanism, warehousing, transport, quality assurance, and control Michael Quayle (2006), according to John, Chandra, Tim (2008) defines procurement that it comprise sourcing and purchasing and comprise all of the function involved in the product/ service sourcing, purchasing and delivery from supplier to customer, while purchasing is defined by Lyson as to purchase materials of the right quality, in the right quantity from the right supply and delivered to the right place at the right time at the right price. Procurement is the process of gaining goods or services in a way with borrowing, leasing and even force or pillage. Lyson (2006)

Procurement is a vigorous component of reasonable contact to health care. It can be defined as the acquisition of organization goods, works or services through purchase, hire, lease, rental or exchange and is occupied to include all activities from preparation and estimating, identification of requirements, sourcing and solicitation of bids, assessment of offers, valuation and award of contracts, contracting and all phases of contract management till delivery of the goods, at the end of a contract, or the valuable time period of an asset. WHO (2011)

Therefore health facilities should make effort to emphasize professionalism in the procurement process through which pharmaceutical should have a proactive procurement process that lead to proper cooperation to technical staff and procurement professionals that will ensure the organization use its budget for planed procurement requirement, this add value to the facility where the required medicine are sourced at right source, right price and time as well that ensure proper control and hence customer satisfaction

2.2.3 Health Facility

Those are place where patient visit for treatments, so that are places that provide health care, for example hospitals, Dispensaries, clinics and specialized care centres,

Factors to consider when choosing the Health facilities according to Medline plus 2018

- How close it is too where patient live or work
- Whether the insurance service available
- The quality of the facility

2.2.4 The health system in Tanzania

Follows the design of government arrangements of control in the form of pyramid, there are different ranks of services. The structure complies with a system of a pyramid on top of which there are central hospitals. Which are expensive as they are concerned with to the universal principles, their function as referral hospitals is contented with circumstances and complications. They fail to achieve this goal simply because of poor infrastructure of the nation, poor roads and weak communication with the inaccessible regions.

2.2.4.1 Types of Healthcare:

Every patient requires different treatment depends upon his/her health challenge where some may prefer normal treatments and other may prefer extra special treatments. On the basis of treatment required the system is divided into two major types which are Primary healthcare, secondary health care and Tertiary health care system.

2.2.4.1.1 Primary Healthcare

Primary health care mainly emphasizes on health fairness creating common policy beyond the outdated healthcare arrangement. Main aim is to help local care to patient due to professionals associated to primary health facilities where normal generalists are, social problem, physical and psychological compared to secondary where most of specialized treatments are available. Primary health facilities are speedily increased in all over the world that is both developing and developed countries where it depends to increase in population and risk of non-communicable disease which are chronic for example back pain, diabetes, asthma, hypertension depression and anxiety (WHO 2017)

According to (WHO 2017) narrated the advice on how primary health care can achieve its goal as followed

- According to individuals' requirements & expectancy consolidating healthy services.
- Integrate health into all segments.
- Pursuing joint models of policy discussion.
- Stakeholder contribution enlarged.

Dispensary

A place where medicine or medical or dental treatment is distributed (Walter, E. 2008), Deals with provision of small-scale services of health in the Health System in Tanzania. In order to meet the needs of the poor population, one of the major existence of dispensaries are health facilities that are mostly found near to patient areas and provide quick services compared to higher level health facilities that are prolonged with huge procedures and are populated with huge number of patients from different areas.

Specialized clinics

Specialized clinics are care assistances that object a specific patient that suffer same illness and admit to a place where specialized in such ill are found. The subpopulation is often underserved to seeking care in outdated settings (Lee 2003). Typically considered specialized clinics as a means to scale growing or advance access to care in their community Patients at specialty health facilities have access to extraordinary expertise, resources and therapy programs that aren't often available at general rehabilitation centers According to (Sterne et al 2016) listed the following as the benefits for the existence of specialized clinics in the community.

- Reduced medical complications
- Lower long-term costs
- Improved productivity
- Relevant education and resources
- Improved functional independence
- Better preparation and support for a successful future

Health centers

Health centers is a primary health facility which are community grounded and patient engaged establishments that deliver broad, traditionally experienced, high quality primary health care amenities. Health centers also often integrate admittance to, mental health, pharmacy substance use complaint, and verbal health services in areas where geographic, economic, or cultural obstacles limit access to inexpensive health care services. Health centers bring care to the Nation's most vulnerable persons and families, including people live through homelessness, agricultural personnel, populations of public housing, and the Nation's veterans (Myers et al 2010).

Health Center Platform essentials:

- Provide high quality services to population around the facilities with cultural experienced, supportive services like education to patient
- Deliver services regardless of patients' capacity to pay back and charges for services obtained.
- Function under the direction of patient common leading boards of independent public based organizations. These include public and isolated non-profit organizations and ethnic and faith-based facilities.

2.2.4.1.2 Secondary Healthcare

Secondary Health Care is the professional treatment and provision provided by doctors and other health experts for patients who have been referred to them for specific professional care, most often provided in hospitals. Typically, patients are bringing up from primary healthcare centers to hospitals when local health staff lack the awareness, properties or specialty to treat them Bricknell et al (2016).

Secondary healthcare is provided by the health experts and other health specialist who do not have direct contact with a patient like dermatologists, urologists, and cardiologists. According to Countrywide health system plan, the patient required primary care professional's referral to advance extra services to secondary attention. But it depends to one country policy and countries policies, the patient cannot straight take secondary care for the reason that sometimes health system imposed a control of referral on a patient in terms of expense.

According to WHO, hospitals should evolution from being the preceding link in a chain" of health provision to being aggressively engaged with their societies and with workers of primary care, Changing the outdated model starts with dumping an importance on "satisfying the beds" in favor of a new role of hospitals as part of joint

networks Katsambas (2015), the hospital practice often design a dominant point in their lives. They are involved for care harmonization and incorporation and have a key character to play in backup other healthcare providers (that is primary health care) and in public outreach and home-based services.

The hospital sector is not uniform. The relative reputation and operationalization of hospitals functions vary according to health care delivery establishments and each hospital have unique position in the system.

Enlightening the quality and value of services provided in hospitals has prospective to improve the performance of hospitals and increase request of services by patients, as well as improve the overall trust that patients have in health organizations.

Tertiary Healthcare

This type of healthcare is recognized as specified counselling healthcare typically for inpatients and on recommendation after primary and secondary health facilities for progressive medical examination and treatment. For examples of tertiary care services are plastic burn treatment, surgery, cardiac surgery, cancer supervision, Neurosurgery, complex medical and surgical interventions.

The main provider of this type of health facilities system is Local Hospitals and National hospitals were local obtain patients from various health facilities around the area and save those patients whereas the patients' needs more progressive treatments are referred to National referral hospital. The patient referred to national referral hospitals are those who have serious illness and can't be treated at regional level where those regional hospitals lack advanced equipment and specialized service providers this mainly the case of Developing countries.

2.2.5 Health facility medical storage

Medicine must be available to meet the demand of patient so that storage facilities for pharmaceutical products are essential to any health facility to ensure that required medicine is available all the time. This might be trick to ensure its safety as most of the medical products are shorter shelf life but also other products need special care while stored

Healthcare experts face many encounters in their day to day activities, searching for the goods they need. Several health facility supply rooms are overcrowded, making it tough to control inventory and find exactly what's wanted for each customer. For healthcare staffs, disordered bulk storage can mean spending more time used for searching supplies and less time to consider patients.

2.2.5.1 Storage requirements for pharmaceutical products WHO (2003)

Storage conditions, this is where the pharmaceutical products should be in compliance with the labeling of the product package requirement.

Monitoring of storage condition, the pharmaceutical products need to be monitored time to time to ensure predetermined interval check implemented and the result for the activities should be recorded and retained.

Protection procedures must be taken to avoid dishonest individuals from incoming storage areas.

Storage zones should be of adequate capacity to allow the orderly storage of the countless groups of supplies and goods, namely initial and packing materials, intermediates, bulk and ended products, products in isolation, and released, returned, rejected, or recalled products.

Storage areas must be premeditated or modified to ensure good storage situations. In specific, they should be clean and dry and preserved within satisfactory temperature

bounds. Where superior storage situations are required on the tag for example: temperature, relative humidity, these should be provided, checked, supervised and documented, Pharmaceutical products should be stored off the floor and at properly spaced to permit cleaning and inspection. Pallets must be reserved in a good state of sanitation and repair.

Receipt and dispatch bays must guard pharmaceutical products from the weather conditions. Reception areas must be intended and fitted out to allow containers of incoming materials and pharmaceutical products to be cleaned, if needed, before storage.

Pharmaceutical products must be controlled and kept in such a way as to prevent contamination and confusions.

Pharmaceutical products must be kept in environments which guarantee that their quality is upheld, and stock should be properly alternated. The “first expired/first out” (FEFO) attitude should be followed.

Rejected pharmaceutical products should be identified and controlled under a quarantine system designed to prevent their use until a final decision is taken on their fate.

Fragmented or damaged product should be withdrawn from operating stock and avoided to ensure are not mixed with good products.

Storage spaces must offer acceptable lighting to allow all processes to be conceded out perfectly and safely.

On receiving, each arriving delivery must be checked against the applicable purchase order and physically verified, that is by the batch number, label picture, pharmaceutical product and quantity.

Pharmaceutical products have to remain in separation until an accredited release or rejection is attained.

Actions must be taken to make sure that all forbidden pharmaceutical products cannot be used. They must be stored separately from other pharmaceutical products while wait for destruction or return to the provider.

Pharmaceutical products must be conveyed in such a way that their integrity is not impaired and that storage situations are kept.

Superior attention should be maintained when exhausting dry ice in cold chains. Observing to security precautions, it must be guaranteed that the product does not come in into connection with dry ice, as this may unfavorably affect the product quality.

Records for dispatch must be maintained, for example, the customer's name and address, the date of dispatch, the product description, e.g. name, the transport and storage conditions, batch number and quantify, the transport and storage conditions.

2.2.6 Essential Health Care Compendium (URT 2003)

This is a joined assortment of cost-effective involvements that address the main diseases, injuries and jeopardy issues and contain.

- Reproductive and Child Health,
- Treatment of Common Conditions of local prevalence within the District,
- Control of Communicable and Non-Communicable Diseases,
- The essential health care package extends to all levels of health care provision
- Community Health Promotion
- Disease Prevention, through environment sanitation and management
- Occupational health services.

2.2.7 Governance and Structure of Health Services in Tanzania (URT 2003)

The health facility structures are categorized into different level that is low and high levels, where patient visit the level depend to the complexity of his/her Illness. As described below

Community Health Services

It is the concern of each individual and/or domestic to take attention of its own health. The societies have commitment to their own health and must be involved and contribute in speaking and solving health matters using the available local properties. The Community Government should identify and improve the essential role of populations in directing local health facilities.

Dispensary Services

This is the first formal health facility of level one health care. It is a most important health facility which deals outpatient services including reproductive and child health services, and diagnostic services. Dispensaries shall provide comprehensive Primary Health Care services which include:

Health Education and IEC to people being served by the dispensary, Treatment of diseases, Reproductive and Child Health Services, and Family Planning, Integrated Management of Childhood Illnesses (IMCI), School Health Services including HIV/AIDS, Immunization Services to children and mothers, Continuation of treatment for TB, Leprosy, Mental and other diseases in collaboration with higher level facilities, Outreach Services and mobile clinics with special focus to nomadic communities, Prepare Dispensary Health Plans and monitor their implementation, Where appropriate provide expertise and supervision of health care activities in the villages served by the dispensary, Prepare progress reports for submission to the relevant committees established by the Council, Refer patients with complicated conditions to higher levels as necessary following the established referral system,

Collecting and utilization of data to provide feedback to various levels including the community

Health Centre Services

This is the second formal health unit of level one-health services. It is a primary health facility, which offers Casualty and In-patient services, parenthood care, dispensing, laboratory, mortuary services. Each Health Centre shall have a communication facility including appropriate transport for referral of patients to hospitals and supervision.

A Health Centre under the Local Government Authority through the Health

Centre Committee and Management Team, should, provide promotive, preventive, curative and rehabilitative services, Act as the first referral center from dispensaries in its catchment's area; keep health service data and records according to given guidelines, provide feedback to other levels including dispensaries.

District Hospital Services

Hospital services in the district are offered by the District Hospital and other level one hospital, Level one hospital services provide: Out-patient and In-patient care, Act as the second referral level, For the primary health care facilities in the district or catchment's area, Perform general surgical and obstetric operations.

District Hospital shall provide, Provide health care to the catchment's population; Act as referral center for patients from lower level health facilities of the district; Conduct teaching and training of middle and operational level health care, conduct action oriented research programs in the district Give supportive supervision and inspection and provide technical skills to lower health facilities in the district and refers patients to the regional hospital.

Regional Hospital Services

This is a hospital institution providing level two (Secondary) referral services from level one hospital. The Regional Hospital must have a communication and transport system appropriate for functions and services rendered. The Regional Hospital provides the following function: To provide all services offered at district level but at a higher level of expertise; Offer second level referral services from level one hospitals; Conduct teaching and training of middle and operational level health care; Conduct health research programs including operational research of health systems research in the Region;

Provide technical skills to lower health facilities in the Region and offer specialized treatment in Medicine, Surgery, Obstetrics and Gynecology and Pediatric, and shall include Eye, Dental, Mental illnesses, Orthopedics and Trauma.

National Hospital

The hospital is equipped with qualified human resources, sophisticated equipment and reliable and adequate transport/communication facilities so as to provide services as required.

Zones for referral hospital

Referral Hospitals must be equipped with the best mix of qualified specialists and consultants as well as sophisticated recent medical equipment so that they are able to handle cases, which are currently being referred abroad.

The Hospitals shall offer all medical services offered by level two hospitals but at a higher specialist level. They must also conduct the training of high and middle level health personnel, health research, provide consultancy on various health and medical issues, and conduct outreach visits to other hospitals in the zone to offer specialists support services to the medical staff services.

Specialized Hospital

These hospitals must be fitted out with qualified experts and consultants as well as sophisticated recent medical equipment so that they can deliver services to patient as required.

The hospitals should be suitable and reliable in transport and/or communication facilities to meet the demand to enable the experts perform their day to day duties better.

2.2.8 Patient

Patient is somebody who seeks treatment under health care. The person can be waiting for care or may be receiving it or may have already acknowledged it. An individual who is undergoing medical treatment and care, a person who is receiving treatment for professional services that are directed by a specialized doctor of the healing skills toward care, improvement or protection of health or lessening of sickness, incapacity or pain. (US Centres for Medicare & Medicaid Services)

2.2.9 Direct health facility financing

This is the adaptation of delegation policies; mostly the role of delegation in the health sector is to advance competence, to foster improvements and to increase quality, patient experience and accountability. URT (2016)

2.3 Theoretical Reviews

This study was constructed on two theories, specifically the Contract Theory and Competence based Theory. The explanation of the Theory and its contribution to the study as shown in the following subsections below.

2.3.1 Contract Theory

This is the theory which emphasizes on how fiscal actors can construct contractual provisions, normally in the occurrence of asymmetric evidence, Bolton & Mathias, (2015). It implies networks with both agency and motivations. Contract theory is regularly considered within a field of rule and finances Dutta & Radner, (1994). One projecting application of it is the project of ideal schemes of administrative reward. In the ground of economics, the first recognized action of this area was given by Kenneth Arrow in the 1960s. In 2016, Oliver Hart and Bengt R. Holmstrom both acknowledged the Nobel Memorial Prize in Economic Sciences for their effort on contract theory, covering everything from CEO pay to privatizations. Hart, (2013).

A normal practice in the microeconomics of contract theory is to epitomize the performance of a decision maker under convinced mathematical effective structures, and then apply an optimization process to identify optimal conclusions Laffont, (2012). Such technique has been castoff in the contract theory outline to numerous typical circumstances, characterized moral hazard, contrary selection and signalling. The essence of these models depends in finding theoretical conducts to stimulate representatives to take suitable actions, even under an insurance agreement Martimort, (2015). The main outcomes attained complete this family of models comprise: measured properties of the convenience structure of the major and the representative, relaxation of expectations, and deviations of the time construction of the contract connection, between others Tirole, (2016). It is expected to typical societies as maximizes of some von Neumann Morgenstern convenience utilities, as stated by predictable utility concept Salanie, (2013).

The theory is applicable to the study on the grounds that it well describes the procurement process due to the fact that the health facilities procure a lot of medicine where actors from internal and external of the institution are involved so as there must be critical agreement between the two parties. And the study focuses to ensure

the patient who are the customer to health facility obtain better services through the availability of medicine that can cure their illness.

2.3.2 Competence based Theory

Competence-based strategic controlling is a way of discerning on how administrations advance great enactment for a substantial period of time. Recognised as a theory in the primary 1990s, Colombo, M. G., & Grilli, L. (2005) competence-based strategic model explains how Management can create a supportable economical advantage in a efficient and important way Freiling, J. (2004). The theory of competence-based is an integrative strategy model that integrates economic, administrative and behavioural trepidations in a background that is energetic, universal, reasoning and holistic Sanchez and Heene, (2004). This model defines competence as: the capability to tolerate the harmonized deployment of resources in ways that supports an organization to attain its objectives Freiling, J. (2004). Competence-based model can be originated in zones other than strategic administration, namely in human resource controlling

The mode is applicable to the study as all the activities to ensure customer (Patients) Satisfaction depends on staff with required skills and competences. Having a competent staff will strengthening the proper implementation of governing the pharmaceutical products at health facility level, where planning, sourcing, storage and distribution be performed as required.

2.4 Empirical review

According to JSI, their supply chain for health, they say health and family planning programs succeed where the supply chain brings a consistent and nonstop supply of reasonable, high excellence medicine, contraceptive and other vital supplies, when and where they are needed. John Snow (2006)

TWaweza conducted the study of access to medicines in Tanzania, Sauti za wananchi, says admittance to medicine is a main component of any health system, Access is resolute by ready accessibility of important medicine as well as the level where patient can afford (Twaweza, 2013)

Methodology of the study employed was survey design and or approach whereas the study was conducted in form of a scientific inquiry seeking response from the selected nationally participants on the gap identified to be envisaged and filled. Findings shows that therapeutic medicine out of stock at health facilities are strong problematic, but also result shows 41% patient buy medicine before seeking treatments, 69% heads of health facilities mentioned lack of medicine is one of their major problem, then 41% of patients have no ability to purchase directed medicines at the health facility but they mostly do acquire these drugs from other sources.

According to Ministry of health and social welfare Tanzania in collaboration with WHO (2008) in study of in depth assessment of procurement medicine and supply management in Tanzania, the study found most of the health facilities had poor stock management that need to be improved, the study also identified the trials with respects to the quantification process then staff did not have integrated system for defining what to order from central source (“Practical Guidelines on Pharmaceutical Procurement for Countries with Small Procurement Agencies,” 2015)

According to Breen L., & Crawford H. (2005), with paper for Improving the Pharmaceutical Supply Chain assessing reality of e-quality through e-commerce application in hospital pharmacy, the paper purposes to examine the role of e-commerce in hospital drugstore in the procurement of medicines and determine how IT can improve the inside pharmaceutical supply chain

According to khudair, I. F., & Raza, S. A (2013) in their study of measuring patient’s satisfaction with pharmaceutical service at public hospitals, the study aimed to study pharmacy services impact on patient satisfaction and to determine what factors saliently link with pharmaceutical provision routine. The findings show patient

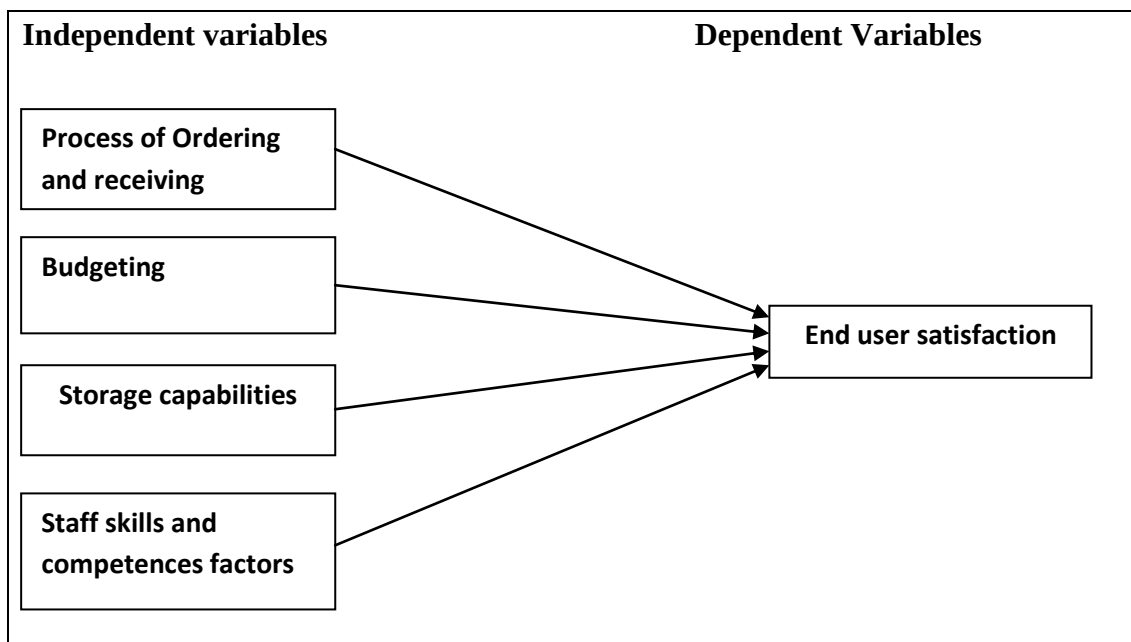
fulfilment is absolutely influenced by service promptness, pharmacist, attitudes, medicine cancelling, pharmacy position and waiting space

According to Alshahrani, S. (2018) in his study for the Adoption of Vendor Managed Inventory for Hospital Pharmaceutical Supply, the study purposely to examine the vendor managed inventory (VMI) for the supply of drugs between providers and hospitals. Findings show the success public division VMI initiatives and ineffective private division VMI.

2.5 Conceptual Framework

The current study base on the developed conceptual framework by linking Independent and dependent variables, where Independent variables are Health facility storage capabilities, and health facility staff skills and competences while end user satisfaction (Patient) are dependent variable from which the study is based and discussed upon. The expected outcome of this research illustrated by the developed conceptual framework

Figure 2.1: Conceptual Framework



2.5.1 Dependent variables

2.5.1.1 End user satisfaction

End user satisfaction is all about the patient's satisfaction after services obtained from the health facility, this been determined by the intention of patient to come back for treatments, loyalty, patient promotion, Feedback, and increased number of new patients

2.5.2 Independent Variables

2.5.2.1 Process of ordering and receiving of pharmaceutical products

As the normal procurement process of other products/Materials procured by the Organization, also for pharmaceutical products the same procedures are followed. But for government sector, all health facilities under public sector must first fill the sales order to MSD, and where MSD are out of stock were can not be able to supply the required products, thus the normal procurement procedures are followed to obtain the products needed. So that researcher intended to know how the process have an impact to end user satisfaction, where poor process can cause the unavailability of pharmaceutical product required by the patient attending the health facilities for treatments.

2.5.2.2 Health facility budget

Here the study was intended to know how the budget has an impact to patient where unfavourable budget can lead to unavailability of pharmaceutical products and hence patients lack the services at health facility level. But also, to evaluate the Implementation and challenges of Direct Health Facilities Financing (DHFF) where LGA's Practices this policy for their day to day operations

2.5.2.3 Health facility storage capabilities

Here the study was to find out how storage capacity of the health facility influence the end user satisfaction, through which it improves the provision of services to patient so that some factors identified where for effective health facility storage that is size of the store, system used in store, security of the product, layout of the product in store, and temperature for special medicine that are affected by weather

2.5.2.4 Staff Skills and competence

Competent and skilled staff are the one who can influence the patient to enjoy services provided at the health facility level and are the important tool for patient satisfaction were service provider have direct contact with the patient and service provider are the one who represent the health facility so that are important people to the organization, by considering that researcher identified Training, experience, teamwork, involvement in decision making are things that motivate staff and have direct influence to patient satisfaction.

CHAPTER THREE

RESEARCH METHODOLOGY

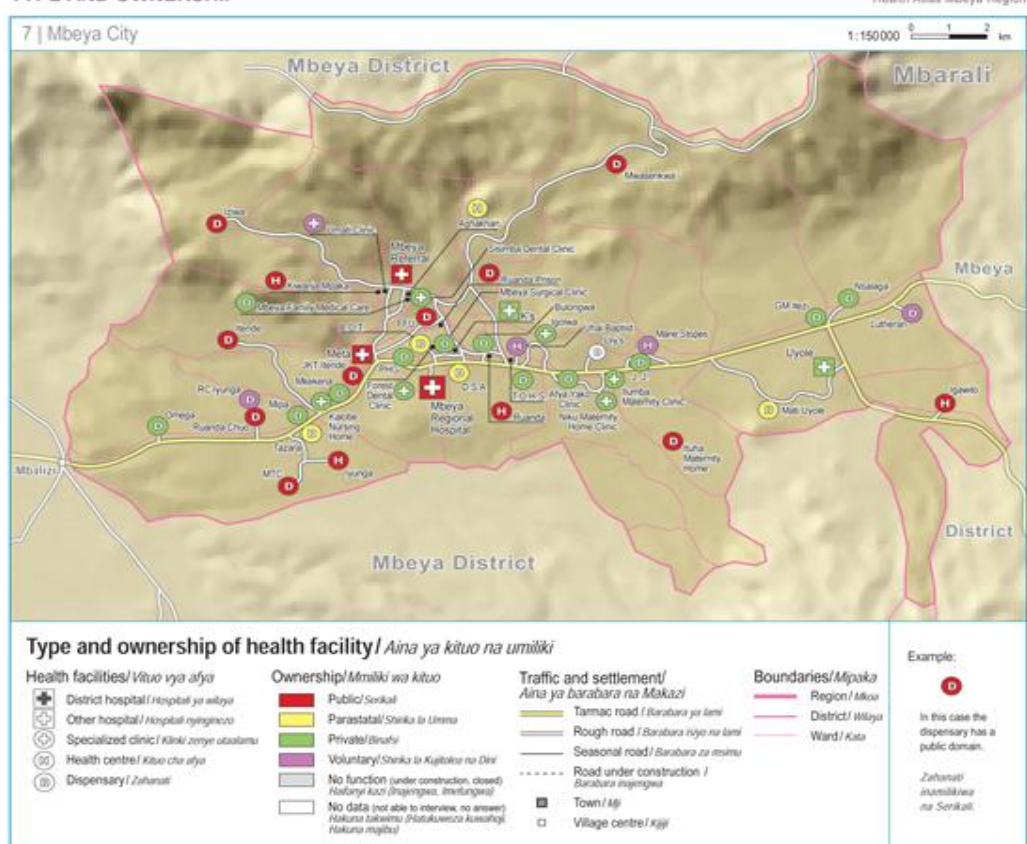
3.1 Introduction

The chapter stipulate the approach in which study was utilized to foster the entire process of knowledge creation and filling on the recognized gap. It constitutes several steps which support the methodology of the study including research design, area of the study, paradigm of the study, sampling and sample size, methods of data collection, validity and reliability, data analysis and the ethical concerns. Therefore, it includes the following

3.2 Area of the Study

This study was conducted at Mbeya city council specifically to health facilities that are being selected. MCC was selected because of several reasons among those it's where the researcher lives; the area tailored the aim of the study due to the fact that is among of the city that consist of large number of population where according to the census conducted in 2012 by the united republic of Tanzania, Mbeya city council population was 270,741(URT 2012), but also number of health facilities allocated in different areas of the city that include public and private health facilities to ensure the entire population are serviced at the required level. The area chosen for the inquiry to take place where Health facilities located at Mbeya city council was selected which consist Eight (8) public health facilities because it is a public entity which have multiple needs but also Eight (8) private health facilities which also serve the same society of the city and which give best experience on how they govern the pharmaceutical products at health facility level.

TYPE AND OWNERSHIP



© Health Atlas, Health Service Availability in Mbeya Region – Tanzania, 2010
Ministry of Health and Social Welfare of United Republic of Tanzania in collaboration with Beuth University of Applied Sciences Berlin

Figure 3.1 Map for Health facilities in Mbeya City

3.3 Research Design

The process and style used and adopted to ensure information are collected and gathered to fill the knowledge gap Ozturk, I. (2006). The information sought and considered in this category are the relevant primary data serving as new and fresh information to fill the study gap. According to Bailey (1998), cross sectional survey research design is cast-off to gather information from the ground at one point in time to scrutinize one variable from various clusters which are similar to some magnitudes.

3.4 Research Paradigm

This is the philosophical views and perception on scientific inquiries on the source of knowledge and the justification on the reality Goodwin, (2005). There are two opposing views focusing on both source of knowledge and the justification on reality setting which are positivism and phenomenology. The study uses positivist approach due to the fact that knowledge is obtained through set instrument for data collection. The reality on the other hand is rationalized over the use of knowledge compressed and well set the research questions controlling the study.

3.5 Targeted Population

Population is a group of individuals, objects or items from which samples are taken for measurement. Kothari, (1990) The targeted population was respondents of study included the top management, accountant, planning, procurement staffs, technicians, Pharmacist, doctors, of Hospitals, Health centres, dispensaries and specialized clinics which are selected and found in Mbeya city council. And therefore, from that population is where the researcher attained the sample which was used in the study.

3.6 Units of Analysis

The main unit in this case was the individual involved in the governance of pharmaceutical product in terms of procurement, storage and supply since the researcher had to collect data from these individuals, and the data that went into the analysis was the value obtained from the respondents for Health facilities selected in MCC.

3.7 Sampling Techniques

The researcher used simple random sampling under non probability sampling were the purposive sampling or convenience sampling was used due to the fact that nature of the study require the targeted population who had proper information concerning the study, (Nurses, Technicians, Pharmacist, Doctors, Procurement, accountant,

Stores, Planning and management) from the targeted people who were proficient to contribute the applicable and precise information of the study (Kothari, 2009)

3.8 Sample size

In this study, the sample size consisted of two categories that are 1) Technical staff and 2) supportive staff in health facilities. Where the targeted total sample was 150 Respondent and in reality, the researcher was able to reach 121 respondents as stipulated in the table 3.1 below.

Table 3.1: Sample Size

Category 1	Respondents	Population	Frequency	Percent %
Technical Staff	Nurses	20	17	14
	Technician	10	6	5
	Pharmacist	24	22	18.2
	Doctors	19	17	14
Category 2 Supportive Staff	Procurement	25	20	16.5
	Accountant	14	12	9.9
	Management	14	10	8.3
	Stores	14	11	9.1
	Planning	10	6	5
TOTAL		150	121	100.0

Source: Field data (2019)

3.9 Type of Data

The study used both primary data and secondary data in filling knowledge gap of the study. Where Primary data was collected from the field as fresh data relevant to fill the inquiry gap, Secondary data was collected from various materials which may serve as supplement information in support of the primary data in the arguments of the study findings.

3.10 Methods of Data Collection

The assignment of data collection commences after a research problem has been well-defined and research design or plan written out. While determining almost the technique of data collection to be used for the study, Kothari (2004)

3.10.1 Primary Data Collection

The primary data are those which are composed afresh and for the earliest time and thus occur to be original and attractiveness, Scholars tend to gather this kind of data in order to get immediate information. The primary data was collected through questionnaire and observation approaches of data collection.

3.10.1.1 Questionnaires

Questionnaire is the tool used for data collection consisting of questions printed on papers on the researched issue seeking for response from the respondent(s) given with their clear conscious Gillham, (2008). The questions set may be Open ended, closed ended or both depending on the necessities of the study and the appropriate technique of the study employs to fill the research gap of the inquiry. The tool was used to collect information to the selected sample for the study because the study constitutes measurable variables which require the use closed ended questions to gather data. The tool is appropriate because the only tool to gather measurable and quantifiable data is questionnaire which constitutes closed ended questions and open-ended questions.

3.10.1.2 Interview guide

An interview is a formal way of collecting required information where respondents asked questions by the researcher face to face in order to find out the suitable course of study. Interview is the community meeting where researcher cooperates in creating retrospective and prospective interpretations or description of their parts or future arrangements, experiences, feelings and opinions Kothari, (2009). The study used interview in collecting evidences from respondents for inquiry in collecting the primary data. Interview is the type of data assortment technique of which the researcher gathers data by communication with respondents through personal discussion Boba, (2005).

3.10.2 Secondary Data Collection

The technique is a review of various publications as documents in form of texts and sometimes electronically in relation to the study objectives. The data in particular may serve supplements to the primary data in the discussion of the findings. Used as supplementary information in support of the fresh data and information collected from the field for the fulfilments of the Gap

Secondary data means data that are already accessible, they refer to the data which have already been collected and analysed by someone else. When the scholar uses secondary data, then has to aspect into numerous sources from where can get them Kothari, (1985).

3.10.2.1 Documentary Review

Is the use of outside source, documents, to support the viewpoint or argument of an academic work, the process of documentary research often involves some or conceptualising, using and assessing documents which are source of information Scott, J (2006) in this study the researcher view documents such as stock taking report, inspection reports, ledger books in order to obtain the data which are useful to the study.

3.11 Rationale for Selection, Sample Size and Sample Procedures

The study constitutes employees as relevant sample for the study both ordinary and the management to fill the inquiry gap. This is due to the fact that they are the actual performers in the field and the area specifically to the extent that they may provide adequate and precise data to fill the inquiry gap since they have adequate knowledge on the area. The study consists 2 to 20 respondents for public and private health facilities depend on the size and nature of the health facility.

Despite that, the sample size was selected using purposive sampling technique because only respondents well knowledgeable and skilled to provide adequate and

reliable primary data was picked and selected to participate in the study for the provision of the relevant primary data required.

3.12 Validity and Reliability

The two instruments were selected to ensure data quality mechanism as well as consistence of the gathered and collected study variables. As stated as follows

3.12.1 Validity

Validity means the tools which specify the degree of measurement on what is theoretical to be measured Beer (1993). The measurement is tested and verified through the use of pilot testing approach and or pre-testing of the questionnaire as the research tool whereas the tool finally gets to be approved by the supervisor for data collection to take place.

3.12.2 Reliability

Reliability refers to the dimension on which is reliable as it delivers consistent outcomes Ritter (2010). Reliability of the variables is well tested and measured using Cronbach Alpha test.

3.13 Data Analysis

Is the process of systematically applying statistical and logical techniques to describe and illustrate, condense and recap and evaluate data, various analytic procedures provide a way of drawing inductive inferences from data and distinguishing phenomenon of interest Shamoo and Resnik (2009). Aim was to determine rationality of data which was collected. In this study data analysis used both descriptive statistics and quantitative technique mainly multiple regression analysis.

3.13.1 Descriptive statistics

Two specific objectives that are process of ordering and receiving and budgeting, the data collected were analysed using descriptive statistics. The tool for example pie charts, percentage, tabulation used to add understanding of the information. IBM Statistical Package for the Social version 21 used in entry and analysis of data, coding of data especially in computation of frequencies, percentages which presented in the table

3.13.2 Regression Analysis

Multiple regression analysis was used to demonstrate the existing relationship among study variables both independent as all two study predictors and or hypotheses in specific objectives on the dependent variable.

The multiple regression models which was used in analysing the data for objective number three and four where the researcher intended to test the relationship among the Independent and dependent variables as given through the following model

For objective three that was Storage capabilities of health facilities

$$SC = \beta_0 + \beta_1 SOS + \beta_2 SU + \beta_3 S + \beta_4 L + \beta_5 T + E_i$$

Where by: SC= Storage capabilities of health facility

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \dots$ =Coefficients

SOS= Size of the store

SU= System used

S=Security

L=Layout

T=Temperature

E_i =Error term

Whereas for objective number four the liner model was specified for the purpose of statistical estimation

$$SS\&C = \beta_0 + \beta_1 T + \beta_2 E + \beta_3 TW + \beta_4 DM + E_i$$

Where by: SS&C= Staff Skills and Competences

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \dots$ =coefficients

T = Training

E= Experiences

TW= Team work

DM=Decision Marking

E_i =Error term

3.14 Ethical Consideration

Ethics are well observed and practiced in the entire conduct of the study. First, regulations of the university on the conduct of the studies were observed. Besides that, confidentiality of the information of the respondents is respected to ensure that none of the information which is considered private and confidential may ever be made public.

CHAPTER FOUR

ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the research findings for the Governance of Pharmaceutical Procurement and Supply in Health Facilities towards End User Satisfaction. The findings of the study based on the four research objectives which were analysed in statistical software known as IBM SPSS version 21.

The chapter shows the findings of the study as the information which has been obtained in the field as the relevant primary data newly for the generation of new knowledge for the study being undertaken and inquired. The findings of the study are strongly supported with adequate analysis based on the collected facts from the field which are strongly verified by the discussion to fit as new knowledge to fill the inquired gap.

Initially, the chapter provides the findings of the demographic characteristics of the respondents, process of ordering and receiving of pharmaceutical products, storage capabilities, staff skills and competences, evaluation of health facility budget for procurement of pharmaceutical products, and finally measures to be taken to ensure end user satisfaction in Mbeya city council.

The study involved a sample size of 150 in total, where by questionnaires were dispersed into nine groups which are: Procurement, Management, Accountants, Stores, Planning, Nurses, Technicians, Pharmacists, and Doctors who seem to have critical information in governance of pharmaceutical products at health facility level. Out of 150 questionnaires the researcher succeeded to collect 121 questionnaires equals to 80.7% of total disseminated questionnaire as shown in table below:

4.2 Sample Characteristics

4.2.1 Number of Respondents

The respondent chosen were divided in two groups that is Technical staff and Supportive staff were public and private sector was involved, the questionnaire distributed was 150 questionnaires but returned questionnaire is 121 equals to 80.7% as shown in the table 4.1 below

Table 4.1. Distribution and Collection of Questionnaire

Respondents	Distributed questionnaire	Collected questionnaire
Procurement	22	20
Accountant	15	12
Management	16	10
Stores	15	11
Planning	10	6
Nurses	17	17
Technician	10	6
Pharmacist	25	22
Doctors	20	17
TOTAL	150	121

Source: Field data (2019)

4.2.2 Gender

Among respondents, 64 (52.9%) were males and 57(47.1%) were females. The weighting of this sample does not equate to an equal distribution between males and females. This shows that there is great opportunity of an outcome from gender unfairness to occur as it can be seen in table 4.2 below:

Table 4.2: Respondents and Gender

Category	Frequency	Percent
Male	64	52.9
Female	57	47.1
Total	121	100.0

Source: Researcher (2019)

4.2.3 Respondents' Age

Figure 4.1 below indicates that, respondents who participated in the study ranked the ages of 31-45 years were 57 out of 121; which equals to 47.1% of all respondents participated. This shows that, middle age workers are highly in the field compared to the ages of 18-30, 46-65 and 65+, 18-30years were 34 respondents equal to 28.1%; age of 46-65years were 23 equal to 19.0% and 65+years were 7 equal to 5.8% as the mean equal to 2.6 and .021 standard deviation as shown in figure 4.1 below:

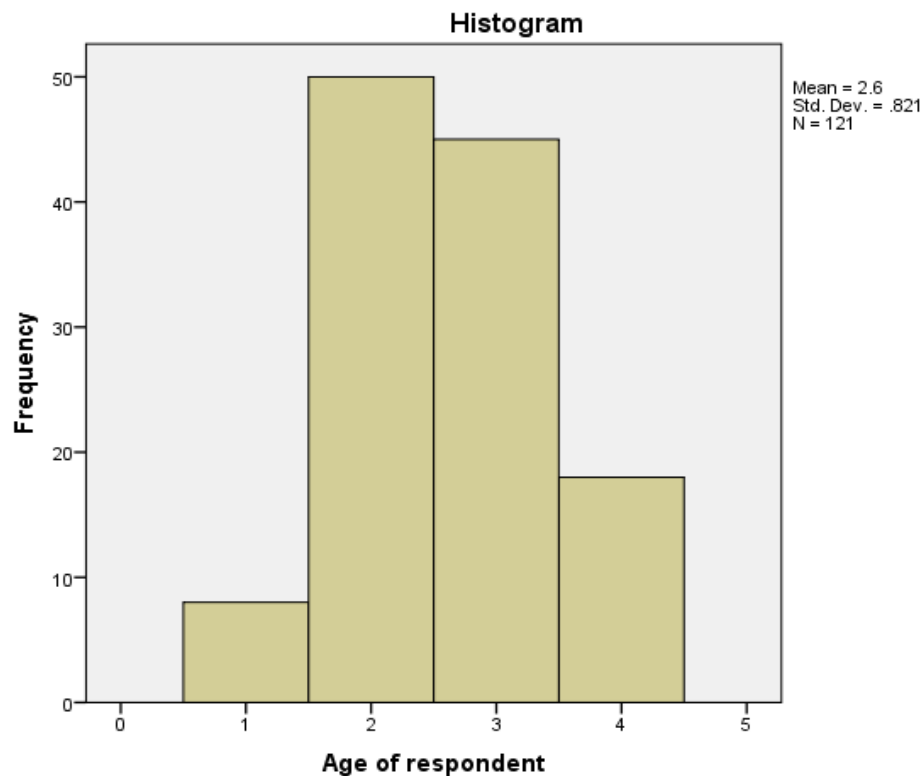


Figure 4.1 Respondents' Age

Source: Researcher (2019)

4.2.4 Respondent's education level

The suggestion on the thoughtful on the governance of pharmaceutical products at health facility level can be determined by the education level of the respondents.

Consequently, this variable was being involved on the study. Data regarding the education level of respondents were presented into six categories where majority of respondent have bachelor degrees that count to 74 respondents which equal to 61.2%. And remaining 47 respondents equal to 38.9% fall under other levels of education that is non formal education where no respondents found in this level which is equal to 0.0%, Primary education 3 Respondents equal to 2.5%, Secondary education 8 respondents equal to 6.6%, Masters level 22 respondents equal to 18.1 and other formal education 14 respondents equal to 11.6. Therefore, the result indicates that popular of respondents were having bachelor degree which provides comment and effective information to this study since they might have more knowledge and understands about governance of pharmaceutical products at health facilities level.

Table 2.3: Respondents Education Level

Education Level	Frequency	Percent
Non-Formal education	0	0.0
Primary Education	3	2.5
Secondary Education	8	6.6
Bachelor Degree	74	61.2
Master Degree	22	18.1
Other	14	11.6
TOTAL	121	100.0

Source: Field Data (2019)

4.2.5 Type of health facility

The study aimed to collect information from highest to the lowest level of health facilities. According to MoHSW, the highest health facility in Tanzania is Hospital and the lowest health facility is Dispensary and/or specialized clinics. The Governance of pharmaceutical product is vital to all levels of health facilities because they all aim to save the same society. Due to this fact, different levels of health facilities found in Mbeya city were involved.

Table 4.4 below describes number of responses from each type of health facility, where 15 questionnaires equal to 12.4% obtained from dispensaries, the lowest level

of health facilities; 15 questionnaires equal to 12.4% from Health Centres; 50 questionnaires equal to 41.1% collected from Regional Hospitals; 25 equal questionnaires to 20.7% from Referral Hospital and 16 equal questionnaires to 13.2% collected from specialized clinics.

Table 4.4: Type of health facilities

	Frequency	Percent
Dispensary	15	12.4
Health center	15	12.4
Regional hospital	50	41.3
Referral hospital	25	20.7
specialized clinic	16	13.2
Total	121	100.0

Source: Field Data (2019)

4.2.6 Nature of Health Facilities (Ownership)

The researcher intended to obtain information from different health facilities that is public and private to ensure that necessary comparisons are made among the two were governance of pharmaceutical product are of different so that equal distribution of questionnaire was done in fact 50% for Public health facilities and 50% for private health facilities, in numbers 8 public and private health facilities was attended and questionnaire collected. So that table 4.5 below shows the returned questionnaire from both public and private institution where 70 response equal to 57.9% obtained from respondents worked with public institution and 51 equals to 42.1% obtained from private institutions

Table 4.5: Health Facility Ownership

	Frequency	Percent
public institution	70	57.9
private institution	51	42.1
Total	121	100.0

Source: Field Data (2019)

4.3 Identifying the process of ordering and receiving of pharmaceutical products at health facility level

The first objective of the study was to understand how the health facility conducts its activities in all process of acquiring of the pharmaceutical products from the source and receiving all the products and how long it takes from the order initiation until received and kept the needful products. Researcher aimed to identify the process practiced by each health facility selected and sub objectives developed as follows: Initiator of the requirements, Preparation of orders and source identification, lead time, Supplier responses, follow up or expediting, reasons for supplier late delivery, inspection, source of supply and if there is any medicine received as a grant from government or donors

4.3.1 Initiation of requirements

The research intended to know where the requirement for pharmaceutical products are initiated at health facility level and mostly of respondents agreed to user departments as the need initiator as summarized in the table 4.6 below which shows that majority of respondents that is 82 equal to 67.8% tick user that is pharmacy department are the one who initiate the requirements at health facility level, 9 equal to 7.4% identify that procurement department are the one who initiate the order, 17 equal to 14.0% say management are the one initiate the requirements, 10 equal to 8.3% say order are initiated by service providers, and 3 equal to 2.5% Said other staff in the organization initiate the requirements.

Table 4.6: Requirements Initiation

Response	Frequency	Percent
User (Pharmacy Specialist)	82	67.8
Procurement department	9	7.4
Management	17	14.0
Service provider	10	8.3
Other	3	2.5
Total	121	100.0

Source: Field data (2019)

4.3.2 Order preparation and source identification

The researcher intended to know responsible person or department that prepare orders and identify the source of supply for pharmaceutical products at health facility level where MSD is the main source of supply but also registered private source. The table 4.7 below shows that majority of health facilities respondent show that orders and source identification done by procurement department were 64 equal to 52.9%, 30 equal to 24.8% tick user as the one who prepare orders and identify source of supply, 14 equal to 11.6% indicate Management, 8 equal to 6.6% indicate service providers, and 5 equal to 4.1% indicate other staff in the organization responsible for order preparation and source identification.

Table 4.7: Order Preparation

Response	Frequency	Percent
User (Pharmacy Specialist)	30	24.8
Procurement department	64	52.9
Management	14	11.6
Service provider	8	6.6
Other	5	4.1
Total	121	100.0

Source: Field data (2019)

4.3.3 Lead time

Researcher intended to know the time supplier given to supply the pharmaceutical products at facility level so that the respondent was supposed to tick among 3 given category of days that is one to four days, five to seven days and above seven days. The table 4.8 below shows 45 equals to 37.2% indicate that supplier deliver within one to four days, 46 equals to 38% say supplier deliver within five to seven days and 30 equals to 24.8 say supplier deliver the products above seven days

Table 4.8: Lead Time

Response	Frequency	Percent
One to four days	45	37.2
Five to seven days	46	38
Above seven days	30	24.8
Total	121	100.0

Source: Field data (2019)

4.3.4 Supplier Responses

Researcher intended to know if the supplier respond according to the order requirements that are terms and conditions, result in table 4.9 shows majority who respond yes was 94 equals to 77.7% and 27 equals to 23.3% indicate no that means few health facility respondents their supplier do not respond to terms and conditions

Table 4.9: Supplier Responses

Response	Frequency	Percent
Yes	94	77.7
NO	27	23.3
Total	121	100.0

Source: Field data (2019)

4.3.5 Follow up or action taken for supplier adhere to terms and condition

Researcher aimed to know for those respondents says No if there is any action or follow up made in the organization for those suppliers who do not respond to terms and conditions, table 4.10 below shows 25 equal to 92.6 there is action taken to ensure supplier observe the terms and condition given and 2 equal to 7.4% say no which means there is no any action taken

Table 4.10: Expediting

Response	Frequency	Percent
Yes	25	92.6
NO	2	7.4
Total	27	100.0

Source: Field data (2019)

4.3.6 Mostly likely reasons for supplier late delivery

Researcher wanted to understand if respondents know the reasons for supplier late delivery and most of respondents seems to have the same reasons as shown below

- a. Run out of stock
- b. Late payment from previous orders
- c. Unrealistic lead time
- d. Poor specification
- e. Changes of requirements

As that are the main reasons were majority of respondent mentioned it but also other mentioned the poor follow up, poor order preparation, lack of capital to supplier, corruption, low list of suppliers, dependent of health facilities to some suppliers where all health facility depends on the listed suppliers.

4.3.7 Inspection

Researcher intended to know if inspection of product while received are conducted at health facility level, as known inspection is important tool due to the fact that through inspection the facility will know if suppliers deliver the required products, so that respondent asked if there is inspection conducted during receiving of products and the results shows majority that is 103 respondents equal to 85.1% agree there is inspection conducted while 18 respondents equal to 14.9% says no inspection conducted as shown in the table 4.11 below

Table 4.11: Inspection

Response	Frequency	Percent
Yes	103	85.1
No	18	14.9
Total	121	100.0

Source: Field data (2019)

4.3.7.1 Responsible person or department for inspection

Here the researcher intended to know who exactly conduct the inspection at health facility especially for pharmaceutical product were for public health facilities special team found to inspect the product while majority of private health facilities user department are the one who conduct inspection, in general results shows procurement department 20 equal to 19.4%, user department 26 equal to 25.2%, store department 17 equal to 16.5%, management 10 equal to 9.7%, Special team 28 equal to 27.2% and other department or staff 2 equal to 1.9% as shown in the table 4.12 below

Table 4.12: Responsible person or Department for Inspection

Response	Frequency	Percent
Procurement Department	20	16.5
User department	26	21.5
Store department	17	14
Management	10	8.3
Special team	28	23.2
Others	20	16.5
Total	121	100.0

Source: Field data (2019)

4.3.8 Source of supply

Researcher intended to know if the respondents know the source of supply where they procure the pharmaceutical products and their awareness concerning products source, through this question about 109 respondents equal to 90.1% know the source of supply and only 12 respondents equal to 9.9% don't know where the products come from as shown in the table 4.13 below

Table 4.13: Source of Supply

Response	Frequency	Percent
Yes	109	90.1
No	12	9.9
Total	121	100

Source: Field data (2019)

Researcher also asked respondents to mention the source of supply for pharmaceutical product at their facility level where majority mentioned two sources which is MSD and approved private source, those are the suppliers around the region, and after observation is a must for public facility to procure the product from MSD unless they are out of stock, then get approval to procure from private source who approved by GPSA while for Private facility that was not the case.

4.3.9 Medicine received from Government/Donors

Researcher intended to know if there is any medicine received from the Government or Donors that help to meet customer demand and 105 respondents equal to 86.8 agree to the question that they receive medicine while 16 respondents equal to 13.2 say they dint receive any medicine from government or donors as table 4.14 shows

Table 4.14: Medicine from Government or donors

Response	Frequency	Percent
Yes	105	86.8
No	16	13.2
Total	121	100

Source: Field data (2019)

4.3.9.1 Medicine Viability

The researcher intended to know if received medicine from Government or Donors are viable in terms of its use to end user, due to that question 76 respondents equal to 62.8% agreed that the medicine received are suitable for end user and 45 Respondents equal to 37.2% says no that means medicine received are not suitable to their patients as show in table 4.15 below

Table 4.15: Medicine viability

	Frequency	Percent
yes	76	62.8
No	45	37.2
Total	121	100.0

Source: Field data (2019)

4.3.10 Record Maintenance and Documentation

Observation shows most of Hospitals, Specialized and health centres use sophisticated record maintenance and documentation while for Dispensary they use Paperwork for record and documentation so that it is revealed that there is time consuming and inefficient records management that results to poor demand forecast and estimation of required pharmaceutical products.

4.3.11 Observed Order process for Pharmaceutical Products at health facility levels

The study involved respondents from both public and private health facilities from the highest to the lowest level where the order process is the same while for public health facilities MSD is a mandatory source and their order process is different through which payments starts before receiving the products and for private health facilities mostly depends to private source available in the city where for them is not mandatory to procurer from MSD.

4.4 Evaluation of health facility budget and challenges of fund for procurement of pharmaceutical products for provision of good services to end user

The fourth objective of the study was to understand how health facility budget for pharmaceutical products are favourable or not favourable and to know the challenges of funds that lead the facility to fail in procurement of pharmaceutical product that lead to unsatisfied end user, due to this objective researcher developed the sub objectives like procurement plan or budget, staff involvement in budget preparation, opinions of staff to have a favourable budget, and fund challenges and how DHFF policy for government facilities help to achieve their objectives and improves health system in Tanzania.

4.4.1 Procurement Budget preparation

Researcher intended to know if the procurement budget is prepared in their organization that means at facility level and table 4.16 below shows 72 respondents equal to 59.5% agree they prepare the budget and 49 respondents equal to 40.5% says no they don't prepare the procurement budget in their organizations.

Table 4.16: Procurement Budget Preparation

Response	Frequency	Percent
Yes	72	59.5
No	49	40.5
Total	121	100.0

Source: Field data (2019)

4.4.2 Budget preparation involvement

The researcher wanted to know if the selected respondent is involved in budget preparation for procurement of pharmaceutical product and table 4.17 below shows 22 respondents equal to 30.6% are involved in budget preparation and 50 respondents equal to 69.4% are not involved in budget preparation

Table 4.17: Budget Involvement Preparation

Response	Frequency	Percent
Yes	22	30.6
No	50	69.4
Total	72	100.0

Source: Field data (2019)

4.4.3 Unfavorable Budget

Researcher intended to know for the year of 2018-2019 if the budget for procurement of pharmaceutical products was favourable or not and 32 respondents equal to 26.4% say the budget was favourable and 89 respondents equal to 73.6% says the budget of 2018-2019 was not favourable.

Table 4.18: Unfavorable Budget

Response	Frequency	Percent
Yes	32	26.4
No	89	73.6
Total	121	100.0

Source: Field data (2019)

4.4.3.1 Reasons for unfavorable Budget

Researcher intend to find out the reasons for unfavourable budget at health facility level and respondent asked to provide the reasons for unfavourable budget in their organization where reasons seems to be the same for each facility as mentioned below

- a. Lack of enough capital
- b. Poor planning
- c. Less priorities
- d. Fewer source of income
- e. Delay of subsidies from the government and grants from donors for initiated projects
- f. Delay of Health insurance repayments

4.4.3.2 Opinion for favorable budget

Research intended to know what exactly respondent think to ensure budget are enough to meet their requirement and the following are the solutions provided by most of respondents

- a. Strengthening the source of health facility income
- b. Having a competent staff for planning and forecast
- c. Health insurance repayments as quick as possible
- d. Improves system of government subsidies and donors' grants
- e. Pharmaceutical product be one of priorities in health facility budget

4.4.4 Implementation of DHFF

Researcher intended to understand if the public health facilities implements DHFF where only respondent from public facilities was asked and among 8 public facilities, 70 respondent equal to 57.9 was interviewed and their response showed in the table 4.19 below shows 55 respondent equal to 78.6% agreed that DHFF is implemented and 15 respondents equal to 21.4 says they do not real practicing the policy.

Table 4.19: DHFF Implementation

Response	Frequency	Percent
Yes	55	78.6
No	15	21.4
Total	121	100.0

Source: Field data (2019)

4.4.5 Importance of DHFF

Researcher went further to understand the importance of DHFF in improvement of health system in Tanzania and most of respondents mentioned the following points Foster innovations, improves efficiency, advances quality, health worker accountability, better patients understanding, improved health system performance, improve bottom up planning, and decrease of bureaucratic as shown in table 4.20 below

Table 4.20: Importance of DHFF

	Frequency	Percent
Foster innovations	11	9.1
Improves Efficiency	3	2.5
Advances quality	7	5.8
Staff accountability	9	7.4
Better patient understanding	3	2.5
Improves health system performance	10	8.3
Improves bottom up planning	4	3.3
Decrease bureaucratic	8	6.6
Total	55	45.5
Missing System (Private facilities)	66	54.5
Total	121	100.0

Source Field Data (2019)

4.4.6 DHFF encounters

Researcher also wanted to know if there any challenges in DHFF implementation at health facility level by considering this are decentralization policy which is new to developing countries and respondents mentioned the following issues as the challenges. Insufficient funding, untimely payment of fund from dominant government, inadequate and unqualified personnel, absence of communal contribution in planning, political intervention as shown in table 4.21 below

Table 4.21: DHFF Challenges

		Frequency	Percent
	Insufficient fund	6	5.0
	Untimely payment	11	9.1
	Inadequate and Unqualified personnel	10	8.3
	absence of common contribution in planning	12	9.9
	political intervention	16	13.2
	Total	55	45.5
Missing	System	66	54.5
Total		121	100.0

Source Field Data (2019)

4.5 Identification of factors for health facility storage capabilities in provision of service to end user

The objective number three was to identify the storage capabilities of health facility level in provision of services to end users

4.5.1 Analytical results of identified factors for health facility storage capabilities in provision of services to end user

The model summary presented in Table 4.22 shows the linear regression results on the factors for health facility storage capabilities at Health facility level. The regression equation was used to determine to what extent these factors that is availability of store, layout, security system used has an impact to availability of pharmaceutical products and hence end user satisfaction.

Table 4.22 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.722 ^a	.521	.517	.69478078

a. Predictors: (Constant), Size of the store, System used, Security, Layout, temperature and End user Satisfaction

Source: Field data (2019)

Table 4.23 Regression Analysis For Storage Capabilities

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.000E-013	.063		.000	1.000
	Total Storage Capabilities	.722	.063	.722	11.384	.000

a. Dependent Variable: Total End User Satisfaction

Source: Field data (2019)

From the data analysed in the study shows that 51.7% of the independent variables predicted are explained by the model and only 8.3% is explained by other variables and this is due to the Adjusted R-square 0.517. From the table 4.23 above displayed that five independent variables that is size of the store, system used, security, layout and temperature, has a positive relationship on the End user satisfaction by a statistically significant level less than 5%. Where the total health facility storage capabilities variables of (P-Value) 0.000, According to (Cohen 2014) Sayed the coefficient value measures the expected change in dependent variables for a unit change in each independent variable so that total storage capabilities at health facility level has a direct relationship to End user satisfaction

4.6 To determine the staff skills and competences in Ordering, receiving and supply of pharmaceutical products for better services to end user

The objective number four was to determine the factors for staff skills and competences in ordering, receiving and supply of pharmaceutical products for better services to end user (Patients) as follows

4.6.1 Analytical results for factors of staff skills and competences that leads to end user satisfaction

The model summary presented in Table 4.24 shows the linear regression results on the factors of staff skills and competences towards ends user satisfaction. The regression equation was used to determine how improves staff skills and competences affect the end user satisfaction at health facility level.

Table 4.24 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.380 ^a	.145	.137	.92877362

a. Predictors: (Constant), Training, Experience, Teamwork, Decision marking and end user satisfaction

Source: Field data (2019)

Table 4.25 Regression Analysis For staff skills and competences

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.001E-013	.084		.000	1.000
1 REGR factor score for analysis 2	.380	.085	.380	4.485	.000

a. Dependent Variable: Total End User Satisfaction

Source: Field data (2019)

From the data analysed in the study shows that 13.7% of the independent variables predicted are explained by the model and 86.3% is explained by other variables and this is due to the Adjusted R-square 0.317. From the table above displayed that four

independent variables that Training, Experiences, Teamwork and Decision making of staff has a positive relationship to patient satisfaction where a statistical significant level less than 5%. The total health facility storage capabilities variables of (P-Value) 0.000, According to (Cohen 2014) Sayed human resource development is to advance the ability of the human in their day to day activities so that be able to deliver what is required at the level of quality and better services to whom is concerned to end user and hence patient satisfaction

4.7 Factor Analysis

The factor analysis has been employed so as to reduce the large number of factors targeted to be used for further Data analysis. According to the study, both independent and dependent variables has sub-variables in which factor analysis was used so as to minimize the number of variables to one (1) from each variable that can assist in performing Multiple regression Analysis.

The Variables involved in this factor analysis has been explained in terms of categories.

These categories can be illustrated in the as given equations.

$$x_1(\text{storage capability}) = f(\text{Rooms, picking stations, system usage, cold rooms})$$

And another factor is staff competences

$$x_2(\text{staff competences}) = f(\text{Training, Experience, decision making, Teamwork})$$

Likewise, the dependent variable (End user satisfaction) is also the function of

$$y(\text{Number of patients, Feedback, intention to comeback})$$

The factor analysis employed for both independent and dependent variables aimed at reducing the number of variables for performing multiple regression models.

The factor analysis has done by considering each variable one (1) factor should be generated but not based on eigenvalues and gives out the new variable. The variable (storage capability) has been extracted from three contributed variables (Rooms, picking stations, cold rooms).

The results from the factor analysis (1) which is for storage capability variable has been evaluated

Table 2.26: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			
	Total	% Variance	of Cumulative %	Total	% Variance	of Cumulative %	
1	2.631	65.783	65.783	2.631	65.783	65.783	
2	.836	20.907	86.689				
3	.307	7.666	94.355				
4	.226	5.645	100.000				

Extraction Method: Principal Component Analysis.

Also the results of correlation matrix have obtained which are all significant at 5% level of significant showing relationship among variables.

The factor analysis at each variable was done depending on the number of fixed variable and not in Eigen values and at each case on End user satisfaction, staff competences and storage capability

In each factor analysis the reliability of factors and sampling adequacy used in the factor analysis was done using the keiser-meyer-olkin measure and Bartlett's test.

Table 4.27: Keiser-Meyer-Olkin measures

Factor	KMO	Bartlett's test (Chi-square)	P-value
Storage capabilities	0.711	221.712	0.000
Staff Competences	0.675	80.506	0.000
End User Satisfaction	0.493	31.273	0.000

Source field data (2019) each factor is significant at 0.05 levels

The keiser-meyer-olkin measure was employed to check the sampling adequacy to each computed factor. Likewise the Bartlett's test computed indicated that ($p = 0.0000$) for all factor analysis procedures have significant relationship among variables was employed to check the sampling adequacy to each computed factor as significant by both having $p < 0.05$ storage capability ($KMO = 0.711$), staff skills and competences ($KMO = 0.675$) means each produce the reliable factors to the End user satisfaction.

4.7.1 Multiple regressions Analysis

Coefficient of regression computed from the model comprised with the extracted factors from factor analysis so as to check the significance relationship among variances (staff competences and storage capability towards End user satisfaction). Also, multiple regression employed to see how coefficients and variables helps to predict the end user satisfaction.

The model can be given as function of independent variables and error with respective coefficients.

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + e_i$$

Where y is end user satisfaction at the health facility, x_1 is storage capability, x_2 is staff competences, β_0 is slope of multiple regression(constant), β_1 is coefficient of storage capability variable and β_2 is coefficient of staff competences variable

e_i Is errors (residuals) term

4.7.2 Model assumptions

4.7.2.1 Normality

Testing the data underlying assumptions of normality or not the Kolmogorov smirnov and shapiro-wilk test has been used for all variables involved in the study $p < 0.05$ showing that normality assumptions among variables employed in the study.

4.7.2.2 Coefficient of determination (R^2)

From the regression model determined and explained how much the explanatory variables for staff skills and competences as well as storage capability has been in the model. About 53.3% has been shown how storage capability and staff skills and competences in the model have been specified. And the results indicate ($p = 0.000$) that means there is significant relationship between the storage capabilities and staff skills and competences to the End user satisfaction.

4.7.2.3 Autocorrelation (Durbin Watson test)

According to the regression model, the testing of autocorrelation has done and the results were recorded as the Durbin Watson test is 1.929 indicate that there is no autocorrelation because results fall under the range of rule of thumb.

4.7.2.4 Multicollinearity

In checking the correlation among independent variables, the statistics for testing multicollinearity, variance Inflation Factor (VIF) is 1.175 which is moderate multicollinearity which can be tolerated.

The results of the multiple regressions

Table 4.28: ANOVA Table

Model	Sum of	df	Mean	F	Sig.
	Squares		Square		
Regression	64.019	2	32.009	67.471	.000
Residual	55.981	118	.474		
Total	120.000	120			

According to the Table 4.28 (Anova table) shows the F-statistic($F = 67.47$) with $p - value = 0.000$ this means the factors for End user satisfaction are significant difference in means

Table 4.29: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.000E-013	.063		.000	1.000
Storage Capabilities	.676	.068	.676	9.918	.000
Staff skills and Competences	.120	.068	.120	1.756	.082

Table 04: Coefficients of Regression Analysis

The Results in table 4.29 shows the coefficients of factors for the satisfaction of health facilities As well as Constant (slope) of obtained multiple regression equation.

Coefficient of storage capabilities (β_1)

The coefficient of storage capability within the participated health facilities was $\beta_1 = 0.676$ ($P = 0.000$) as less than 0.05 level of significance which indicate that the increase/improvement in the storage facilities will lead to the End user satisfaction at health facility level

Coefficient of staff skills and competences (β_2)

Likewise the coefficient of staff skills and competences in this study calculated was $\beta_2 = 0.12$ where $p - value = 0.000$ which is significant showing that the improving staff skills and competences led to End user satisfaction on the utilization of both public and private health facilities.

CHAPTER FIVE

DISCUSSION OF THE STUDY FINDINGS

5.1 Introduction

The main purpose of the study was to examine the Governance of pharmaceutical product at health facility level, in Mbeya city council as shown in chapter one, and four specific objectives as indicated in chapter one. This chapter gives the dialogue and arguments of the findings shown in chapter four.

5.2 Assessment on the process of ordering and receiving of pharmaceutical products at health facility level

The researcher used the normal procedures of procurement and supply explained by PPA as the standard procedures in relation to Governance of pharmaceutical products at health facility levels towards ends user satisfaction that means the initiation of the need up to payments and records management, where researcher though followed procedure by health facilities will ensure the availability of products all the time and hence patient obtain better services at one stop centre that means help the patient to obtain all services required at facility attended.

The researcher identified different processes adopted between public and private health facilities; where for public institutions are obliged to purchase pharmaceutical products from MSD unless they are out of stock. This has led MSD to face many challenges in distributing medicine to health facilities where demand is higher compared to its capacity. For example, MSD Mbeya branch serves three to four regions where the demands of all health facilities depend on MSD-PPP 2010. From there public health facilities allowed to seek approval and make purchase from registered external suppliers around the city this led to delay and increase costs. For private health facilities they have no limitation on where to purchase the pharmaceutical products but challenge is when suppliers are out of stock.

The study also intended to find out the lead time from the placement of order up to receiving of products from supplier. It has revealed that, in public health facilities there is bureaucracy that affects the procurement process where the researcher observed approval of documents takes long process that lead to delay of the delivery process of products that hinder the operation and poor services to patients.

Also, unavailability of medicine to the facilities is affected by late delivery of the products. The study findings show that there is a challenge of late delivery from supplier which results to absence of required products to end customer. Moreover, it has been revealed that, available supplier does not obey to the terms and condition; this is due to weak follow up from health facility staff who are responsible to ensure all requirements are met by supplier.

Additionally, the findings revealed the reasons for supplier late delivery which are: stock run out, late payments of previous orders, orders do not include penalty clause, unrealistic lead time, poor specification from the user departments and changes of requirements which needs supplier to start the new process.

Also, findings show that, there is a problem in inspection of products received where most of health facilities there is no special team selected to undergo the inspection activities and for private health facilities even management or procurement department can conduct the inspection.

Also, the study revealed that in the city there are two type of suppliers namely MSD and private suppliers (Kissa pharmacy, Bhojan, Mina Pharmacy, Maranatha, Msafiri and Babito). The reviewed documents show that, all those mentioned are the potential suppliers that are able to supply the pharmaceutical product at Mbeya city council.

More over the study revealed that there is the pharmaceutical products received from the Government and Donors that are distributed free to health facilities at all levels, seems the products received from identified two groups are important to save the

challenge of product deficit at health facility level, but also not all the products received were important in fact that other products received are not suitable to patients. This face small health facility that is dispensary and specialized clinics where the number of patients who attend the facility average is low compared to Hospitals and Health centres.

These findings are supported by JSI and PFSCM project (2016) in their report of health logistics in Tanzania aimed to work with the Tanzania Government to ensure the proper logistics of medicine and medical supplies for people of Tanzania by strengthening all the process of SCM and ensure better services to patients. Hosiana Eliakim (2013) also revealed that there is poor procurement process of pharmaceutical products that courses out of stock problems to health facilities.

5.3 Evaluations of the Health facility Budget and its challenges for procurement of pharmaceutical products, ensuring availability of required product to end user

This is the second objective of the study as it is known proper budget preparation can lead to confident purchase of enough products for health facility operation; and if not prepared well the health facilities will face patient complaints after missing the advised medicines for treatments

Findings of the study show that, budget are prepared but not favourable for operation where majority of respondent from public facilities argued there is budget preparation whereas for private facilities few respondents agreed there is budget preparation in their organization that reflect there is a problem when it comes to procurement of pharmaceutical product in turn lead to unavailability of funds for procurement of pharmaceutical products.

Also the study revealed that majority of staff are not involved in preparation of health facility budget; as findings show 69.4% of all respondent involved to the study, this lead to unrealistic prepared budget where some requirements are not

involved in the budget and thus affect procurement of those products, and then management face challenge of funds reallocation.

Also the study revealed there are reasons for unfavourable budget for example; lack of enough Capital, Poor planning, less priorities, fewer source of income, delay of subsidies from the government and grants from donors for initiated projects, delay of health insurance repayments.

Respondent also demonstrated their opinions that can help health facilities to have a favourable budget and majority of respondents show, strengthening the source of health facility income, having a competent staff for planning and forecast, Health insurance repayments as quick as possible, Improves system of government subsidies and donors grants, Pharmaceutical product be one of priorities in health facility budget.

Also, study revealed the implementation of DHFF in all LGA'S where health facilities under LGA implement the DHFF policy and 55 equal 78.6% respondents from public health facilities agreed on its implementation where other public health facility those are under central government do not practice this policy and findings shows there is an improvement on its implementation. The study supported N.A Kapolongwe (2019) on his study Understanding the implementation of DHFF in effect of health system performance, their study revealed that implementation of DHFF will improve the Health system performance in Tanzania

Also the study revealed DHFF are important to health facilities in day to day activities where respondents shows how health system changed after starting the implementation of DHFF and the following importance was listed by majority of respondents, foster innovations, improves efficiency, advances quality, health worker accountability, better patients understanding, improved health system performance, improve bottom up planning, decrease of bureaucratic

Despite of implementation and importance of DHFF also there is DHFF encounters where health facility face challenges during the policy implementation where respondents declared there are challenges that is insufficient funding, untimely payment of fund from dominant Government, inadequate and unqualified personnel, absence of communal contribution in planning, political interventions. The result are supported by Addae K.A (2013) who demonstrate that health care financing faces many challenges on its implementation and Said insufficient finance sources and inadequate superior were some of the challenges of financing health care provision

5.4 Identifying factors for health facility storage capabilities in provision of service to end user

Findings on the factors of storage capabilities to end customer satisfaction indicates that there is positive relationship between storage capabilities and End user satisfaction as p-value 0.000 that is less than 0.05 so that effective storage capabilities at health facility contribute to availability of pharmaceutical products and patient to get assurance of all the products at the same place and hence satisfaction. And revealed each sub-variable has a direct impact to end user satisfaction as follows

5.4.1 Size of the Store

Health facility storage size are vital through which it allow large or small storage of medicine in matter of facts high level health facilities should have large storage area where number of patients is huge and vice versa but storage size must be determined by the demand of products to be stocked

5.4.2 System used

The information system includes information of product that come in leaving the store, product available, product in supply pipeline, ordered products and ways to monitor all the products. The system can be manual or automated. (WHO 2007) in their document of product information sheet, Argued that health facilities should access the information concerning procurement, performance monitoring and

reporting, stock records, communication, flow of stock, planning for future demand and through proper information system used will help the health facilities to effective stock management and hence end user satisfaction

5.4.3 Security

Pharmaceutical products are supposed to be secured all the time by responsible and authorized persons where the incoming and outgoing products must be controlled through secured products it helps the health facility to provide service to end customers and hence satisfaction

5.4.4 Layout

Store layout found to be important in any pharmaceutical products storage where time for picking and control of the products become easy compared to poor layout storage. The study revealed that layout of the store must improves the income, stored and outgoing products in a proper arrangement so that its operation can be conducted at less time

5.4.5 Temperature

Medicines are delicate products that need to be stored at controlled temperature to ensure its lifespan and better for human use. Nadir S (2019) in study of storage of medicines and temperature control at community pharmacies, argued that medicines are essential products to be kept at controlled temperature all the time. But the study revealed there some medicine that need special temperature that is refrigerated products, but most of small health facilities has no cold rooms for special products to be stored.

5.5 Determination the staff skills and competences in Ordering, receiving and supply of pharmaceutical products for better services to end user

As the study aimed to determine the staff skills and competences to ensure end user better services, revealed that skills and competence of staff through training, experience, teamwork and involvement of decision making help to improve service to end user and hence become satisfied, and the findings shows staff skills and competence has a statistical significant where there is positive relationship between the two as Skills and competences and End user satisfaction have a P-Value of 0.00 that means is less than 0.005. The following are sub-variables computed in regression analysis for to find out the relationship between staff skills and competences and end user satisfaction

5.5.1 Staff Training

Study findings revealed that training to staff at health facility level is a source of new knowledge and keep staff up to date where most of staff that lacks training they fail to match with the current situation so that they need new skills and quick decision as number of patient increase as well as organization requirement increase.

5.5.2 Experience

Experienced personnel are important to health facilities as they are tool to share what they have from the field for the whole time have been involved in the same activities and people trust to the them on decision marking mostly where problem arise they are used to share ideas what to do compared to current situation. Experienced personnel are gained by being probing and the readiness to make error and learn from them. Also, experience are issues that contribute to end user satisfaction where at health facility is vital for innovation and improvement and new staff learn from experienced staff and bring new idea for better services to patient.

5.5.3 Teamwork

End user satisfaction is the aim of any health facilities where service providers has to ensure to provide better services to patient this can't be achieved if there is no collaboration at work place so that each individual should think the impact of his action and decision to other staff or one department to another once there is collaboration at health facility means the common goal of providing better services to patient will be achieved to the maximum

5.5.4 Decision marking

Staff involvement in making choice by identifying a decision, gathering information, and assessing alternative solutions through the use of step by step procedures is a tools for having a proper outcome to patient, and findings revealed not all staff are involved in decision making for pharmaceutical products that hinder the process of having required product at the facility and this happen to all levels of health facilities. In support of this variable by Cindy D (2010) on factors that influence decision marking, Heuristics used, and Decision outcomes explained the factors that are important in decision making that is Past experience, Cognitive biases, age and individual differences so that by considering that the health facilities lack the opportunity to use internal staff for decision marking and hence end user satisfaction

CHAPTER SIX

SUMMARY, CONCLUSION AND POLICY IMPLICATION

6.1 Introduction

This chapter aim at briefing the summary, conclusion, recommendation and policy implication of findings, as related to the General objectives of the study that is Governance of pharmaceutical products at health facility level. It is also concludes the study by demonstrating how the findings have answered to the study objectives, questions and recommendation for further studies and policy implication

6.2 Summary of the study findings

The general objective of the study was the governance of pharmaceutical products at health facility level towards end user satisfaction that is patient satisfaction. Definitely the study assessed the process of procurement and receiving of pharmaceutical products used by the health facility, evaluation of health facility budget and its challenges for procurement of pharmaceutical products by ensuring availability of required products to end user, factors for health facility storage capabilities in the provision of service to end user, and determination of staff skills and competences in ordering, receiving and supply of pharmaceutical products, ensuring availability of required product to end user.

The study employed cross sectional design with the sample size of 150 respondents where only 121 staff responded. The study involved health facilities from both public and private as well as from the highest to lowest level of operation that is Hospital to Dispensary and staff from different department by considering their impact on the governance of pharmaceutical products that result to end user satisfaction, those staff originated from user department, planning department, procurement department, management, technical staff, service providers, inspection team where the researcher thought are important to the study. And non-probability sampling using purposive

sample was used to ensure only required respondents are involved in the study. The data for this study was obtained through provided questionnaire, interviews, document reviews and observation from health facilities selected in Mbeya city council, the data collected and analysed both qualitatively and quantitatively that is two specific objectives was analysed qualitatively and the other two was analysed quantitatively, that is process of ordering and receiving of pharmaceutical products, health facility budget and its challenge are qualitatively through which descriptive analysis such as frequency and percentages was employed while factors for health facility storage capabilities and Staff skills and competences are Quantitative where factor analysis for Multiple regression analysis model was employed to determine how independent variables has a relationship to dependent.

Findings among all other factors shows there is poor cooperation at health facilities where staff do not work together as a team and hence hinder the procurement process but also slow and poor decision making so that it's important for staff and management to understand the contribution of teamwork towards their goal achievement

Also, findings show there is contradiction in procurement process where responsibilities are not performed as required where some health facilities found management perform all the process to obtain the pharmaceutical products or user can perform extra duties which was supposed to be performed by procurement department at the end result to poor performance.

Findings shows there are late delivery of the products from supplier where both parties contribute to this problem where supplier side is due to out of stock for required products, challenge of transport and to buyer side is late order, bureaucratic, late payments for previous order. Lack of procurement staff for some health facilities especially for private and small level health facilities lead to confusion in procurement process

Health facility must focus on good governance that is transparency, accountability, fair dealing, integrity and value for money, also procurement team should ensure availability of quality material when needed through expediting to avoid supplier late delivery, mostly procurement should identify or increase the supplier base in order to improve better choice for supplier who can meet the requirement as per study few supplier was identified and large number of health facilities depend on them.

Also the study revealed there is poor budget for procurement of pharmaceutical products hence unavailability of products to end customer when needed, that seems to be a challenge to different institution so that organization should put more effort to ensure obtaining enough fund which can help to reduce the deficit budget, for public health facilities there some improvements where the DHFF policy started to be implemented as per study findings revealed that still the policy are not well improved. As the health system in Tanzania are in transition period there is a need to identify and overcome more challenges that hinder the policy implementation perhaps the policy is vital for health sector in Tanzania

Also, storage capabilities for pharmaceutical products is important to improve end user satisfaction where size, layout, picking stations, cold rooms, security and system or software to control inventory must be considered in health facility. Day to day plan without enough stock means the back born of the health system are collapsed so that proper management of storage facilities will ensure availability of medicine at a time needed and patient will be satisfied through having what they want within the area treated also it gives confidence to service providers while accomplishing their duties per harps assurance to customers and which in turn better service and improves customer satisfaction level

Moreover is staff skills and competences where factors like Training, Teamwork, Decision making involvement and experience are vital for end user satisfaction where staff with at least all those factors can perform better compared to those have no such factors so that health facility should equip their staff through number of

trainings, involve the staff in decision making as well as ensure there is team work in place this can improve the facility operation and hence end user be satisfied at high level.

Therefore the study emphasize other research to find out other factors that prohibit customer satisfaction at health facility level where more studies is required to improve health system in Tanzania and there must be some measures to be taken to ensure the normal procurement procedures are followed, improvement of budget, having skilled and competent staff, and proper store for pharmaceutical products which will enhance reduction of excuses while providing services to end user.

6.3 Conclusion

In short the researcher acknowledges the four areas of improvements that can improve customer satisfaction as the governance of pharmaceutical product at health facility level will be at a point of success where all four areas identified by the study will be considered and those areas are Process for ordering and receiving, Skilled and competent staff in place, storage capabilities and health facility budget as follows.

6.3.1 Process of ordering and receiving

Timely processing of order and receiving to ensure the availability of pharmaceutical products when needed in terms of quantity, quality and at reasonable price

6.3.2 Budgeting

Favourable budget is vital for health facilities better operations, so that for both public and private sector to ensure different source of income are identified and strengthening the proper use of those incomes as required.

6.3.3 Storage capabilities

All the health facilities should ensure there is store for storage of pharmaceutical products that are capable to store the product which will help to meet customer demand and important for organization to reduce costs.

6.3.4 Staff skills and Competences

Well trained experienced, teamwork and involved in decision making, that are staff needed for the governance of pharmaceutical products to ensure good performance in their day to day activities hence end user satisfaction.

6.4 Policy implications

By considering all the four areas identified by the study, policy maker that is government and other stakeholders who are responsible for health system should take into account the improvement on Governance of Pharmaceutical products at health facility level where better services will be provided to End user and hence patient's satisfaction. The policy makers need to invest more on studies to ensure last point of health system are considered then thoroughly understand different dynamics about health facility level from lower to higher level.

6.5 Recommendations

The researcher able to come up with the recommendations for health facilities in MCC and other in the country from the study findings as follows:

6.5.1 Management

Management must make sure create the good environment for procurement process to be accomplished, ensure there is a favourable budget for procurement of those products, the facility have good places for storage of those products as its nature, help staff to be up to date through training and workshop and insist cooperation at work place but also involve them in decision making.

6.5.2 Staff

All staff involved in the governance of pharmaceutical products are supposed to ensure they fulfil their obligation but also be used as a tool to advise the management as are the one who know exactly what is needed.

6.5.3 Government

Better Health system is the outcome of good policy and support, so that Government of Tanzania must focus at health facility level to ensure better policy are settled and day to day follow up to ensure the policy are implemented, but also create good environment for easy availability of pharmaceutical products around. This is possible through allowing many investors that can produce as many as possible the pharmaceutical products within the area. Again, is the early delivery of funds to ensure health facilities better performance

6.5.4 Patients

All the service provided by health facility aim to satisfy end customer in in health system supply chain so that is a vital for patient to be involved for contribution of their views that will ensure understanding the reality of their places.

6.6 Limitation of the study

The study was conducted at Mbeya city council, despite of good response from staff at each health facilities attended, there were some encounters to access the information, and in fact staffs were busy and sometimes were not ready to provide information which was necessary for the study objectives, but also error in data provided for those questionnaire filled by respondent themselves that required researcher to come back for verification which consumed a lot of time.

6.7 Areas for further research

The study was about the governance of pharmaceutical product at health facility level at Mbeya city council. Therefore Researcher recommends for further study to be carried at other cities, districts or towns to obtain different opinions that can help to improve control of pharmaceutical products at health facility level, also other studies can be conducted specifically at primary level example dispensary where researcher thought a big challenge of poor pharmaceutical products control are there and customer of lower income attend for their day to day treatments.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

This questionnaire designed to obtain information from respondents where researcher depends mostly in order to fulfill his objectives. All the information obtained from the respondent will be used to achieve the study objectives and not otherwise, so that is my request to all responsible to cooperate with the Researcher to demonstrate what you know about Governance of pharmaceutical procurement and supply at health facility level. Thank you for your positive contribution

This is a questionnaire on the study titled “*Governance of pharmaceutical procurement and supply at health facility level*”. It constitutes the following:

Please circle where applicable

Respondents Profile

1. Gender?

- a. Male
 - b. Female
- 2. Age?
 - a. 18-30
 - b. 31-45
 - c. 46-65
 - d. 65+
- 3. Education Level
 - a. No Formal Education
 - b. Primary education
 - c. Secondary Education
 - d. Bachelor Degree
 - e. Master's Degree
 - f. Others specify.....
- 4. Type of health facility
 - a. Medical Service
 - b. Dispensary
 - c. Health center
 - d. District hospital
 - e. Regional hospital
 - f. Referral hospital
 - g. Other Specify.....
- 5. Is the Health facility private or public institution
 - a. Public
 - b. Private
 - c. Other specify.....

Procurement procedures

- 6. Who initiates the requirements?
 - a. User department (e.g. Pharmacy specialist)

- b. Procurement department
- c. Management
- d. Service providers (Doctors, Nurses etc.)
- e. Others specify
-

7. Who prepare orders and identify source of supply?

- a. User (Pharmacy specialist)
- b. Procurement department
- c. Management
- d. Service providers (Doctors, Nurses etc.)
- e. Others specify
-
-

8. How many days supplier supposed to deliver the items after receiving purchase order?

- a. One to four days
- b. Fifth to seven days
- c. Above seven days

9. According to your answer in question six (6) above do supplier respond to the condition accordingly?

- a. Yes
- b. No

10. If No is there any action or follow up made to ensure early delivery?

- a. Yes
- b. No

11. What are mostly likely the reason for supplier for late delivery

- a.
- b.
- c.

- d.
- e.

12. Is there any inspection conducted during receiving of pharmaceutical products?

- a. Yes
- b. No

13. If yes who conduct the inspection exercises?

- a. Procurement department
- b. User department
- c. Store department
- d. Management
- e. Special team
- f. Others specify

.....

14. Do you know the source of supply?

- a. Yes
- b. No

15. If yes mention the source of supply you know your Organization purchase from them

- a.
- b.
- c.
- d.
- e.

16. Are the source of supply mentioned found in the city?

- a. Yes
- b. No

17. If no how name the area the source of supply found

- a.
- b.

- c.
- d.
- e.

18. Is there any medicine received from donors/Government? (Those are medicine received without payment)

- a. Yes
- b. No

19. If yes does those medicine received viable to your organization?

- a. Yes
- b. No

STORAGE CAPACITY

20. How many rooms do you have for storage of pharmaceutical products?

.....

21. How many picking stations for receiving and issuing of medicine?

.....

22. How many times do you use the system to secure the pharmaceutical products?

.....

23. How many cold rooms do you have for storage of products that need special temperature?

24. Do you have any software to control the movement of inventory?

- a. Yes
- b. No

25. If yes is the software effective to control the inventory?

- a. Strongly Agree
- b. Agree

- c. Disagree
- d. Strongly Disagree

26. Is your inventory system help to forecast demand?

- a. Yes
- b. No

27. If yes at what level of agreement the software works properly?

- a. Strongly Agree
- b. Agree
- c. Disagree
- d. Strongly Disagree

28. How often do you count inventory to maintain accuracy in your organization?

.....

29. Does your inventory stock have the capabilities to meet demand of orders made throughout the year?

- a. Yes
- b. No

30. If no how do you overcome the customer complaints?

.....

31. Are you able to control what merchandise comes in, what date and what goes out?

- a. Yes
- b. No

32. Does your current system deliver accurate report on your inventory stock and past demands to help you make informed decisions for future purchase order?

- a. Yes
- b. No

33. If no how do you ensure the accuracy report on inventory stock and past demand to help in decision making for future purchase order?

.....
.....
.....
.....

34. For product that needs special temperature does your store have the capacity to accommodate those products?

- a. Yes
- b. No

35. If no how do you treat that entire product to meet demand?

.....
.....

Employee competences

36. For how many years have you been employed here?

.....

37. For how long have you employed in other organization?

.....

38. How long you worked and perform duties concerning pharmaceutical products?

.....

39. How many times attended training for pharmaceutical products since employed here?

40. How many times you are involved in decision marking concerning pharmaceutical products?

41. How many times in your organization you cooperate with your collagenous?
.....
42. Are there any challenges you face in day to day operations?
- a. Yes
 - b. No
43. If yes what are the challenges you face in your day to day activities concerning the procurement and supply of pharmaceutical products.
- a.
 - b.
 - c.
 - d.
 - e.
44. For that challenge arise in your day to day activities do you think you can handle all the challenges?
- a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
45. Do you agree or disagree that you have critical awareness of pharmaceutical product that your organization have?
- a. Strongly Agree
 - b. Agree
 - c. Disagree
 - d. Strongly Disagree
46. Are involved in decision marking for procurement and supply of pharmaceutical products at your organization?
- a. Yes

b. No

47. If no who real make decisions for procurement and supply of pharmaceutical products?

a.

b.

c.

d.

BUDGETING

48. Is the procurement budget prepared in your organization?

a. Yes

b. No

49. If yes are you involved in preparation of pharmaceutical procurement and supply budgeting?

a. Yes

b. No

50. For the year 2018-2019 is the budget favorable?

a. Yes

b. No

51. If no that means the budget is not favorable, what are the reasons for unfavorable budget?

.....
.....
.....
.....
.....

52. What would be your opinion for having favorable budget for pharmaceutical product in your organization?

.....
.....
.....
.....
.....

53. Is there any year from past five (5) years you remember the procurement budget exceeded the requirement?

- a. Yes
- b. No

54. If yes list the financial year where budget exceeded the requirement? By considering the past five (5) financial years 2013-2018

- a.
- b.
- c.
- d.
- e.

End user satisfaction

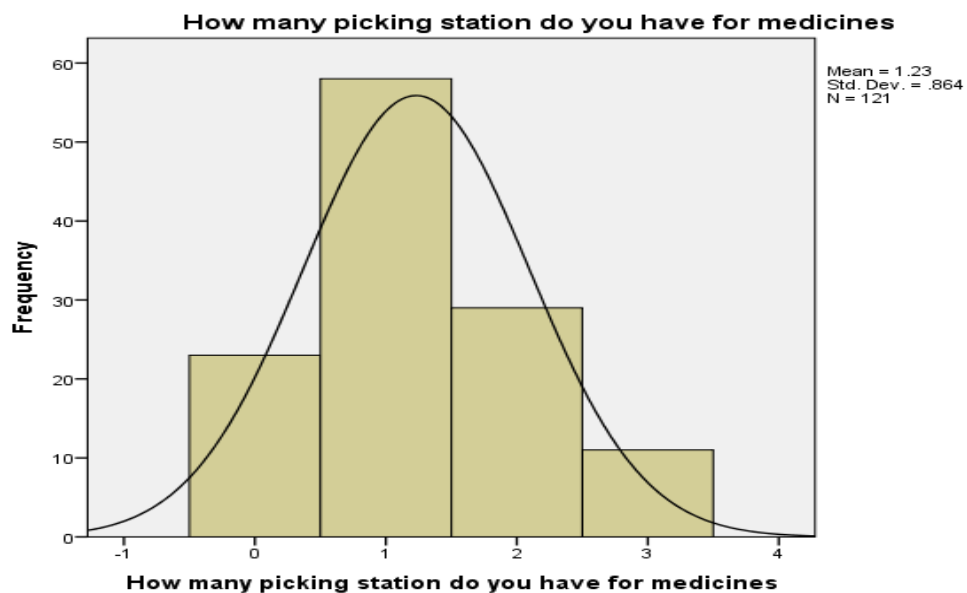
55. In the year 2018/2019 how many patients attended your health facility for treatment?

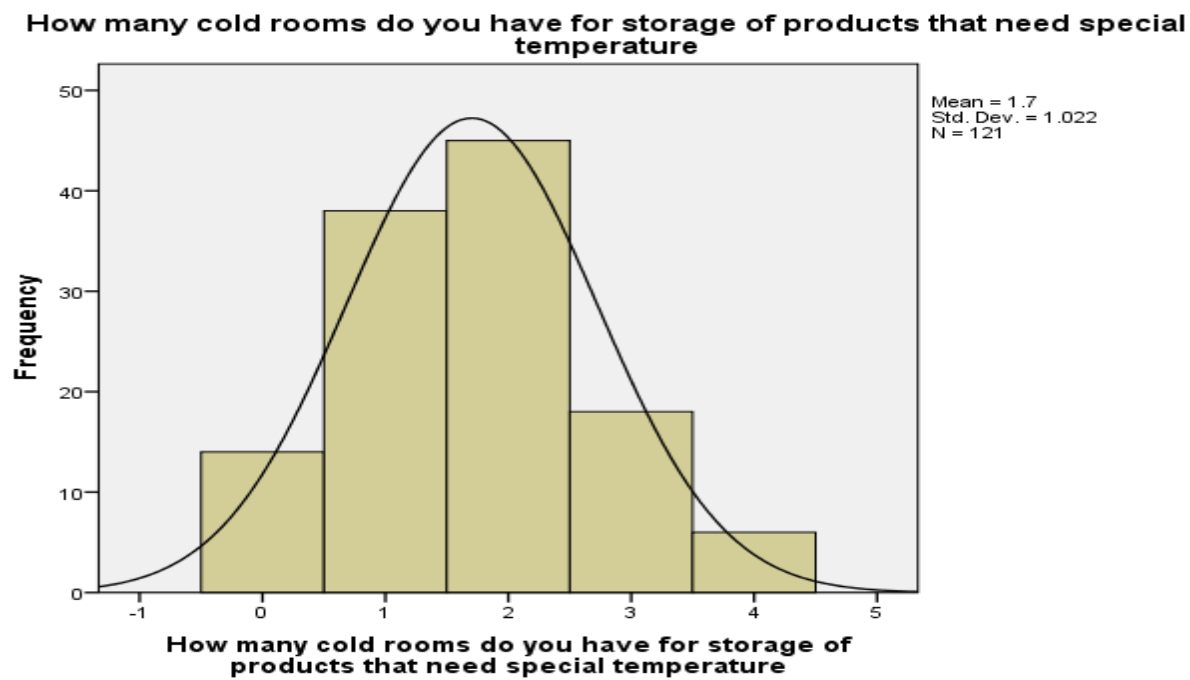
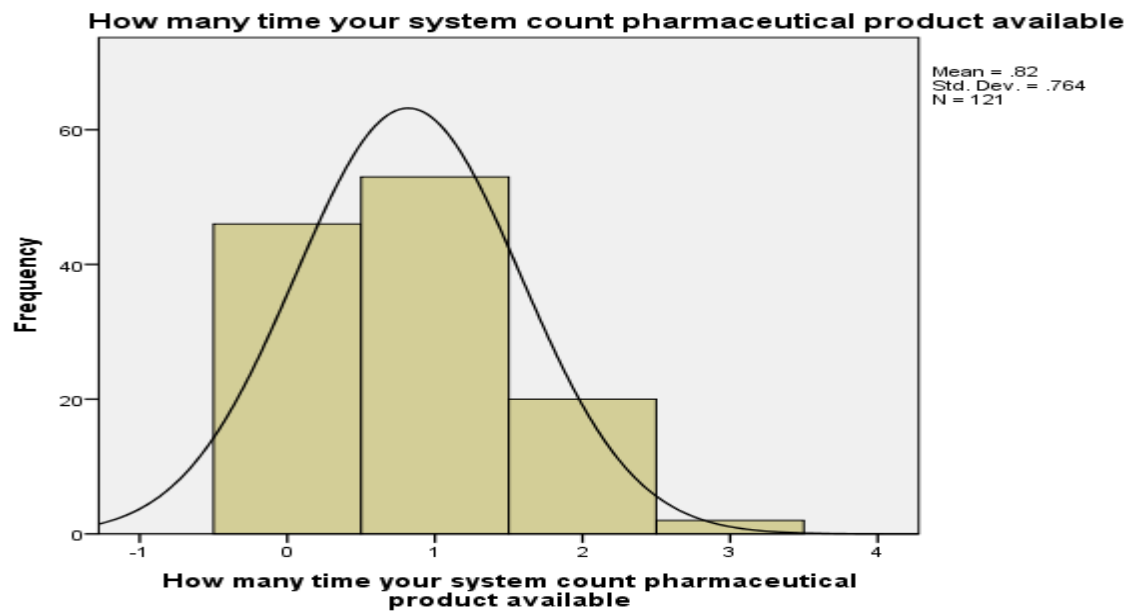
56. How many times did you hear the patient that comes for treatment because have been told by your past treated patient?

57. How many times do you attend the same patient in a year?

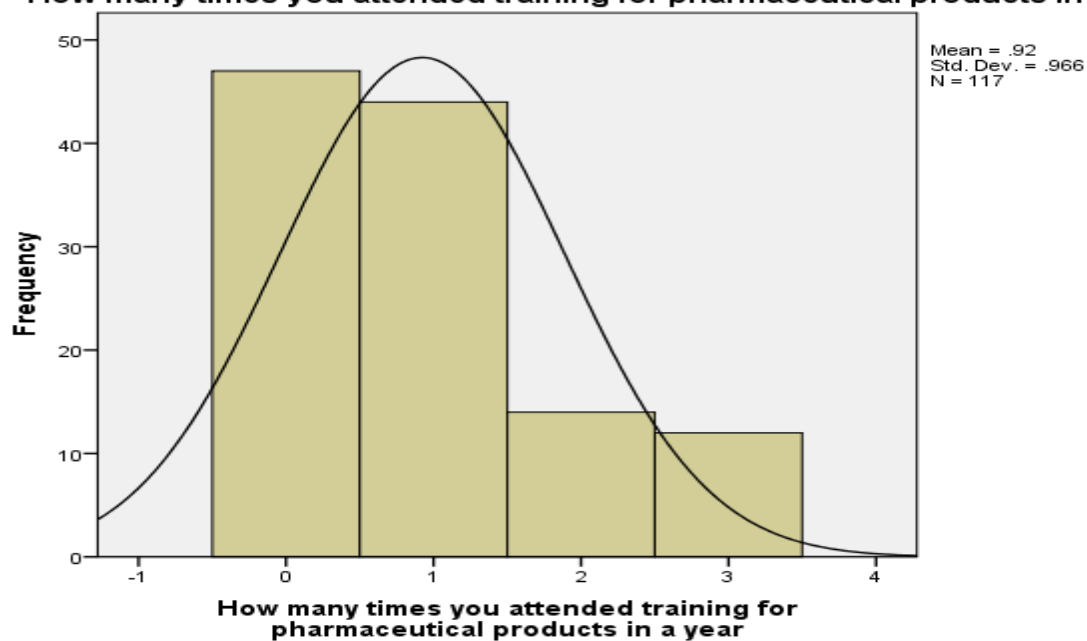
Thank you for your positive cooperation

APPENDIX II: NOMALITY TESTS

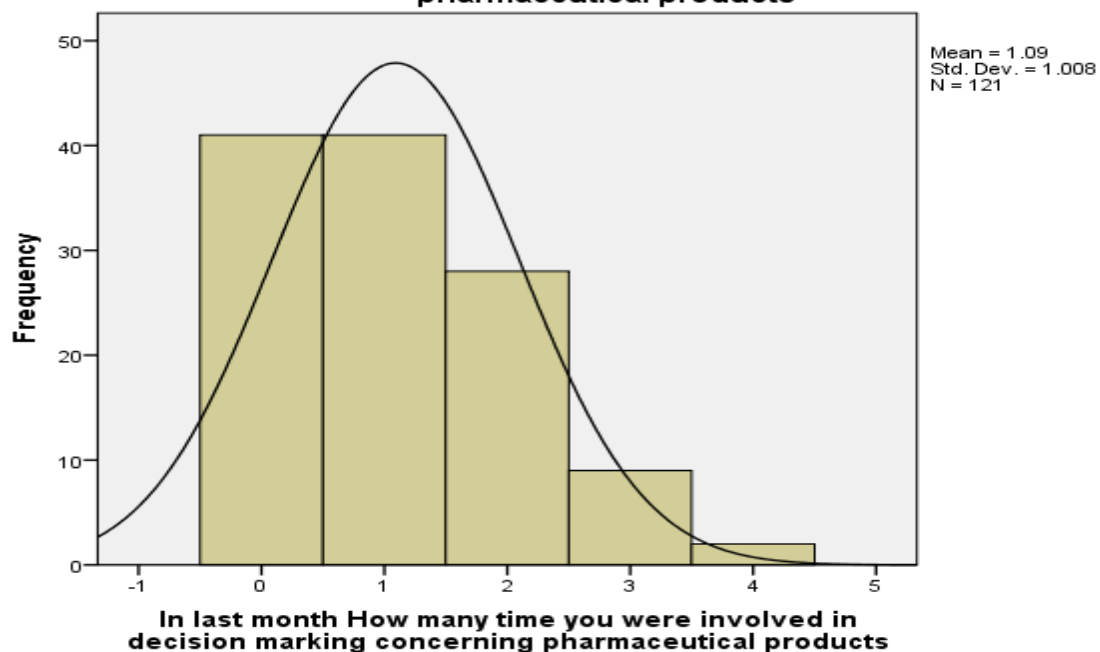


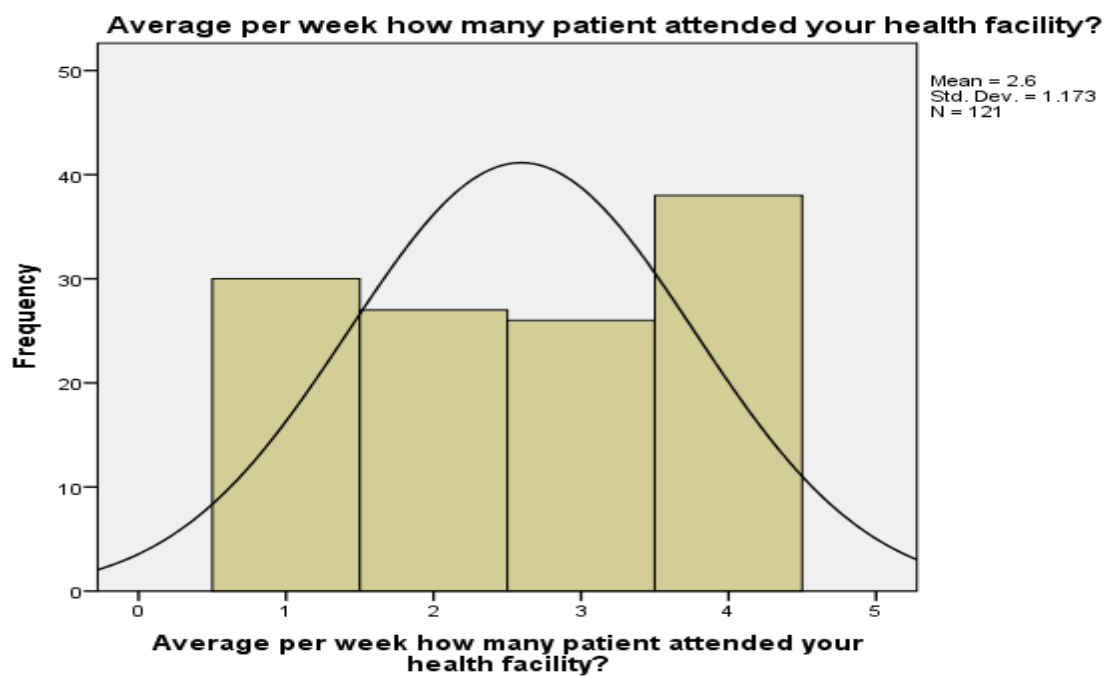
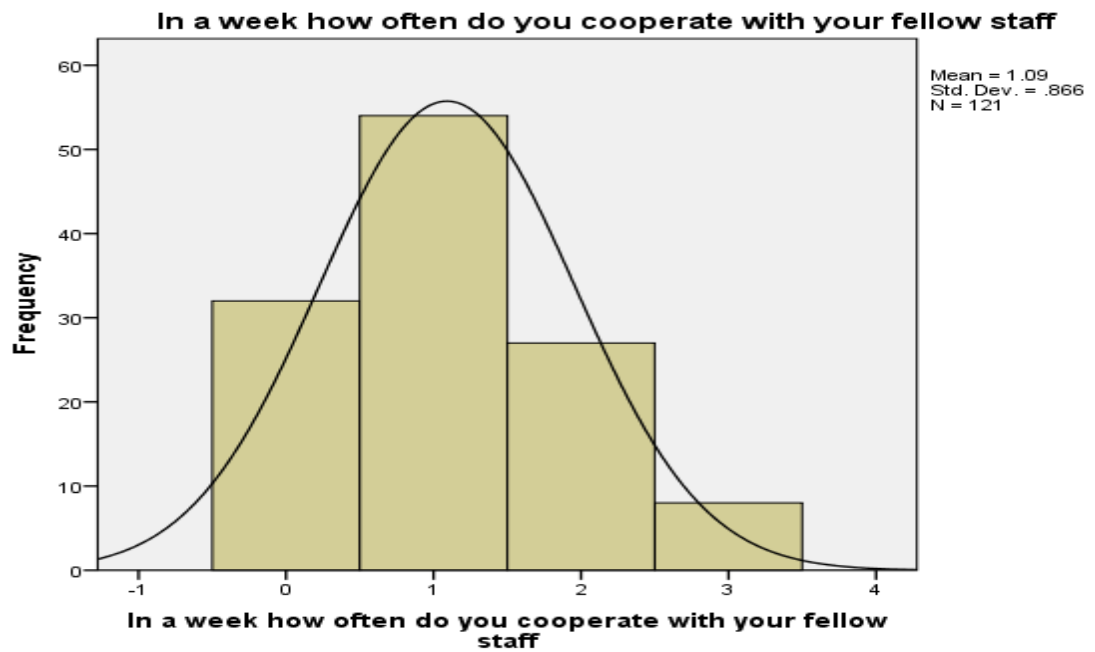


How many times you attended training for pharmaceutical products in a year

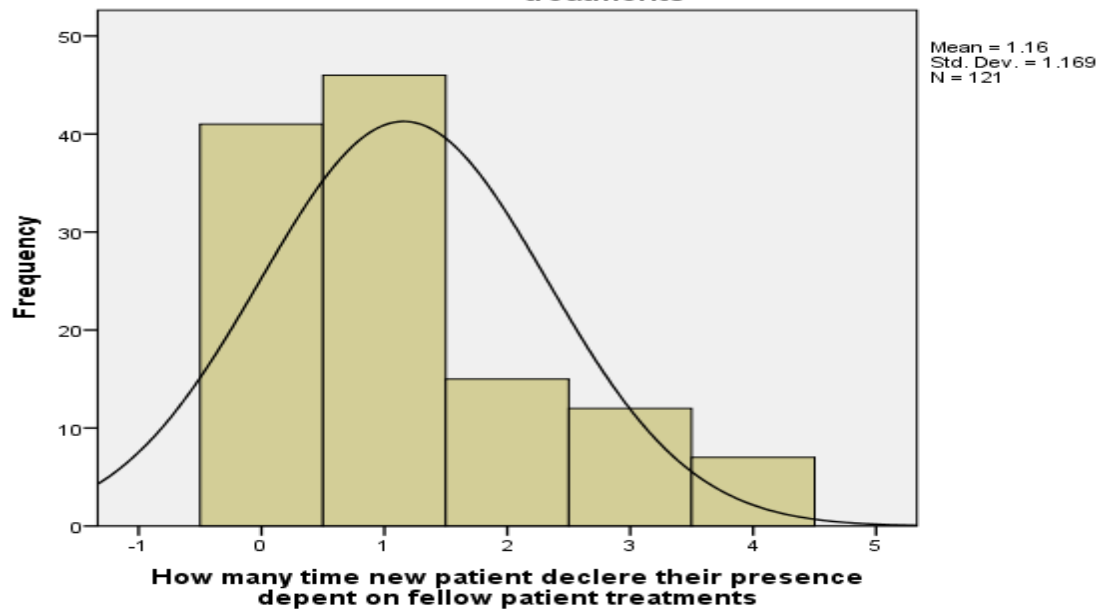


In last month How many time you were involved in decision marking concerning pharmaceutical products





How many time new patient declere their presence depent on fellow patient treatments



How many time do you attend the same patient in a year?

