EVALUATION OF PHARMACEUTICAL CARE DELIVERY AND SATISFACTION AMONG CLIENTS ATTENDING COMMUNITY PHARMACIES IN DODOMA MUNICIPALITY-TANZANIA

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By

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Pharmaceutical management of Muhimbili University of Health and Allied Sciences

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CERTIFICATION

The undersigned certify that he has read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences dissertation entitled, ``**Evaluation of pharmaceutical care delivery and satisfaction among clients attending community pharmacies in Dodoma Municipality-Tanzania**``in partial fulfillment of the requirements for the degree of Master of Science in Pharmaceutical management of Muhimbili University of Health and Allied Sciences.

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Prof. Rainalds .S. Malele

(Supervisor)

_____

Date

DECLARATION

AND

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I, **Gwantwa Cornel Mwamwendesi**, declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature……. Date…….

ACKNOWLEDGEMENTS

Foremost, I thank the almighty God for giving me strength and health that today I am concluding my master's journey of two years with presentation of this thesis.

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Thank you to participants to whom through their response in this study told me, "Pharmacists should move from behind the counter and start serving the public by providing care instead of pills only. There is no future in the mere act of dispensing. That activity can and will be taken over by Internet, machines and/or hardly trained technicians. The fact that pharmacists have an academic training and act as health care professionals puts a burden upon them to better serve the community than they currently do".

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DEDICATIONS

This dissertation is dedicated to my beloved husband Dr. Tumbwene E. Mwansisya.

ABSTRACT

Background

Pharmaceutical care is an ongoing, authorized and systematic quality improvement process. It is designed to review medicine use and/or dispensing patterns and provide feedback of results to dispensers. Recently, pharmaceutical care in a patient-centered approach has increasingly been recognized as an important component in the evaluation of healthcare services. However in Tanzania little attention has been paid on evaluation of pharmaceutical care delivery and its impact on patient satisfaction. Thus, a study which investigates the relation between pharmaceutical care and patient relation is likely to provide useful information for improvement of pharmaceutical care delivery.

Aim

To investigate the pharmaceutical care delivery and satisfaction among clients attending community pharmacies in Dodoma municipality.

Methodology

Cross-sectional survey was conducted in community pharmacies in Dodoma municipality. The study population included adults aged 18 years and above, attending community pharmacies in Dodoma Municipality for their health care. The study comprised 21 registered community pharmacies with 375 participants. General demographic questionnaire, Pharmaceutical care questionnaire and patient satisfaction questionnaire were used. The main study was conducted between January to April 2015. The total satisfaction was categorized into two categories according to the scores such that satisfied (>25 total scores) and not satisfied (<25 total scores). The data were analyzed by using Statistical Package for Social Studies, version 20. The descriptive and inferencial statistics were depicted and presented in the report.

Results

There were 375 responses to the survey, with response rate of 90%.The calculated sample size was 371 for a confidence interval of 95 % and margin of error of 5 %.The 10% of the calculated sample was added for contingency making a total sample size of 412.The participants who responded to the interview were 375,making a response rate of 90%.Participants' ages ranged from 18 to 70 years with majority of participants with a

mean age of (40.78±11.78)years. More than half of all participants 209 (71.7%) were married. Majority of the participants had tertiary education 184(49.1 %) compared to other education levels.Majority were employed in private enterprises and peasants were 142 (37.9%) with minority 131 (35.0%) having an income of more than 300,000/sh per month.The patterns of the level of satisfaction according to some specific demographic characteristics showed no differences between rural and urban with significant difference on gender, perceived cost and education on information sharing, customer care and monitoring the progress, respectively, that are dimensions of patient's satisfaction. Moreover, Paracetamol, diclofenac and Artementher-Lumefantrine was the most accessible drugs in the community pharmacies.

Conclusion

The introduction of pharmaceutical care into routine community pharmacy operations is associated with patient satisfaction. There is a need to improve patients' knowledge on medications, customer care, information sharing and education, monitoring the progress, and reviewing the cost also as to improve the outcomes of pharmaceutical care. Future research should explore the implementation of pharmaceutical care and provide evaluation of effectiveness and impact on quality of satisfaction on pharmaceutical care delivery.

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LIST OF ABBREVIATION

FIP	-	International Pharmaceutical Federation
MDGs	-	Millennium Development Goal
MUE	-	Medicine Use Evaluation
NCD	-	Non communicable Diseases
PSQ	-	Patient Satisfaction Questionnaire
UN	-	United Nations
WHO	-	World Health Organization

DEFINITION OF KEY TERMS

Pharmaceutical care is the responsible provision of Medicines therapy for the purpose of achieving definite outcomes that improve a patient's quality of life.

Drug use evaluation is the system of ongoing, systematic, criteria –based evaluation of drug use that will help ensure that medicines are used appropriately.

Medicine use evaluation is an ongoing, systematic, criteria-based program of medicine evaluations that will help ensure appropriate medicine use. If therapy is determined to be inappropriate, interventions with providers or patients will be necessary to optimize pharmaceutical therapy.

Pharmacist is a person professionally qualified in pharmacy, the branch of health sciences dealing with the preparation, dispensing and use of medicines. The role of the pharmacist has evolved from that of a provider of medicines to that of a provider of patient-centered pharmaceutical care.

Dispenser is a person, who is responsible to prepare, pack, label, records keeping and transfer of prescription drug to the patient or intermediary, who is responsible for the administration of medicines

Pharmacy practice: The provision of medications and other health care products and services and to help people and society to make the best use of them.

Dispensing: Interpretation and evaluation of a prescription, selection and manipulation or compounding of a pharmaceutical product, labeling and supply of the product in an appropriate container according to legal and regulatory requirements, and the provision of information and instructions by a pharmacist, or under the supervision of a pharmacist, to ensure the safe and effective use by the patient.

Care plan

A detailed schedule outlining the pharmacist's and the patient's activities and responsibilities, completed by the pharmacist, with the input and participation of the patient, designed to

1) Resolve any medicine therapy problems

2) Successfully achieve the therapeutic goals of the patient and prescriber; and

3) Proven any potential medicine therapy problem

CHAPTER ONE

1.0 BACKGROUND

A patient-centered approach is increasingly recognized as an important component in the evaluation of healthcare services (Little, 2001). Medicine use is a complex process that may lead into misuse of drugs, an increased cost of medical care, Medicine resistance, adverse effects and patient mortality. However in Tanzania little attention has been paid on evaluation of pharmaceutical care delivery and its impact on patient satisfaction. Thus, a study which investigates the relation between pharmaceutical care and patient relation is likely to provide useful information for improvement of pharmaceutical care delivery.

Pharmaceutical care which is an ongoing, authorized and systematic quality improvement process. It reviews medicine use and/or dispensing patterns, provide feedback of results to dispensers. The processes develop criteria and standards which describe optimal drug use. Again it promote appropriate medicine use through education and other interventions, provide feedback of drug utilization data to prescribers.

Pharmacists participating in medicine use evaluation (MUE) programs can directly improve the quality of care for patients, individually and as populations, by preventing the use of unnecessary or inappropriate medicine therapy and by preventing adverse drug reactions. Additionally, participation in Medicine use evaluation activities is one means by which pharmacists provide value to the health care system by exerting a positive influence on physician prescribing patterns and ultimately improving patient care. A study from Tanzania revealed that patient satisfaction with pharmaceutical services depends on a good services obtained from those facilities as about 46% of respodents in their study reported good quality of pharmaceutical services at the hospital pharmacies (Jande et al., 2013).

Pharmaceutical care is the responsible provision of medicine therapy for the purpose of achieving definite outcomes that improve a patient's quality of life. It involves cooperation with the patient, and other professionals, in designing, implementing and monitoring a therapeutic plan that will produce specific therapeutic outcomes for the patient (Helper, 1990). The pharmaceutical care to be effective depends on the accessibility of medicines. Thus, there is agent need to evaluate the accessibility and pharmaceutical care in the community pharmacies.

Most authors agree that the following five steps are essential when conducting any quality-related MUE program (Zimbabwe, 1999; Parthasarathi et al., 2004). First, identification and determination of optimal use in which criteria are pre-defined to allow for comparisons of optimal use with actual use. A criterion focuses on relevant outcomes. For example, if the use of a medicine prescribed to treat a patient with diabetes is being evaluated, then set standards should be determined to evaluate its effectiveness, such as a decrease in adverse medicine reactions. Secondly, this involves the measurement of actual use, then in which the data are gathered on the actual use of medications. This data can be obtained from medical and prescription records or electronic claim forms. Third, Comparison, this involves comparison between appropriate and actual use. During this process, the evaluator determines whether findings are expected and causes for any discrepancies. In this process, patterns or aberrations can be interpreted. Fourth, intervention - this is the step where corrective action is implemented. Action should be targeted to areas of concern such as dispensing patterns, medication misadventures, the quality of medicine therapy, or economic consideration. Fifth, evaluation of the medicine use evaluation program - this step involves assessment of the effectiveness of the MUE program. Efforts should be made to evaluate the outcomes and document reasons for positive and negative results. It also involves the implementation of appropriate changes to the MUE program and continued observation should be undertaken.

In Tanzania, a large number of sociocultural factors have been suggested to contribute to medicine use practices these includes the national medicine policy, illiteracy, poverty, use of multiple healthcare systems, medicine advertising and promotion, sale of prescription medicines without prescription, competition in the medical and pharmaceutical market place and limited availability of independent unbiased medicines information (WHO, 2004).

Studies on Patient satisfaction with pharmaceutical care in Tanzania are limited. To the best knowledge of the researcher this will be the first study in Tanzania to establish the patient satisfaction with pharmaceutical care delivery in Tanzania. The cross-sectional survey will be carried out among patients attending community pharmacies in Dodoma municipality.

1.1 Problem statement

Patient satisfaction has been described as patient's evaluation on his/her preferences and expectations of care from a provider (Sitzia and Wood, 1997). Quality pharamaceutical care depends on the accessibility of medicines which eventually can lead into patient satisfaction. However, the accessibility of medicines and pharmaceutical care remains a major concern worldwide. It has been reported that about one third of the world's population do not have regular access to essential medicines (WHO, 2004). Numerous factors have been reported to constrain the accessibility of medicines and patient satisfaction to pharmaceutical care. These factors include the patients socio-demographic characteristics, clients knowledge and expectations from pharmaceutical personnel, environment of the premises, affordability and waiting time for services (Muhondwa et al., 2008, Kagashe and Rwebangila, 2011; Jande et al., 2013). Unfortunately, patients in developing countries like Tanzania where 50%–90% of medicines purchased are paid for out-of-pocket they suffer the most (Wiedenmayer et al., 2015). Increasing costs and lack of resources often result in public health systems being unable to procure sufficient medicines to meet patient demand. Unfortunately, the little available medicines in developing countries are often managed and used irrationally (Wiedenmayer et al., 2015).

Irrational use of medicine is a widespread problem at all levels of health care, especially in hospitals (Patel et al., 2005). Numerous factors can be associated with the irrational medicine use including inadequate training of health staff, lack of continuing professional education and supervision, or lack of updated, reliable, unbiased medicine information (Jande et al., 2013). Thus, Medicine use evaluation ensures whether the medicine are used appropriately, safely, effectively to improve patient health status (Palumbo, 1995).

In countries, such as Tanzania with scarce resources and limited prescribers can be a worrying problem which can result in medicine misuse, medicine errors, increased cost, unnecessary adverse effects and acute deaths. The problem can lead into poor pharmaceutical care delivery, which in turn may lead into poor satisfaction among patients (Wiedenmayer et al., 2015; Jande et al., 2013).

Rational medicines use can be establishment through some simple medicines management protocols (Sutharson et al., 2003).

The continual improvement in the appropriate and effective use of medicine has the potential of lowering the cost of care (Yates et al., 1991), thus improving the therapeutic and economic outcomes. The improved therapeutic outcomes can lead into patient satisfaction. In Tanzania though several initiatives and reforms have been made to improve accessibility and pharmaceutical care, the patient satisfaction with this care remains elusive. Thus, the researcher conducted a survey to evaluate the accessibility and client satisfaction with pharmaceutical care in the community pharmacies in Dodoma municipality.

1.2 Conceptual Framework

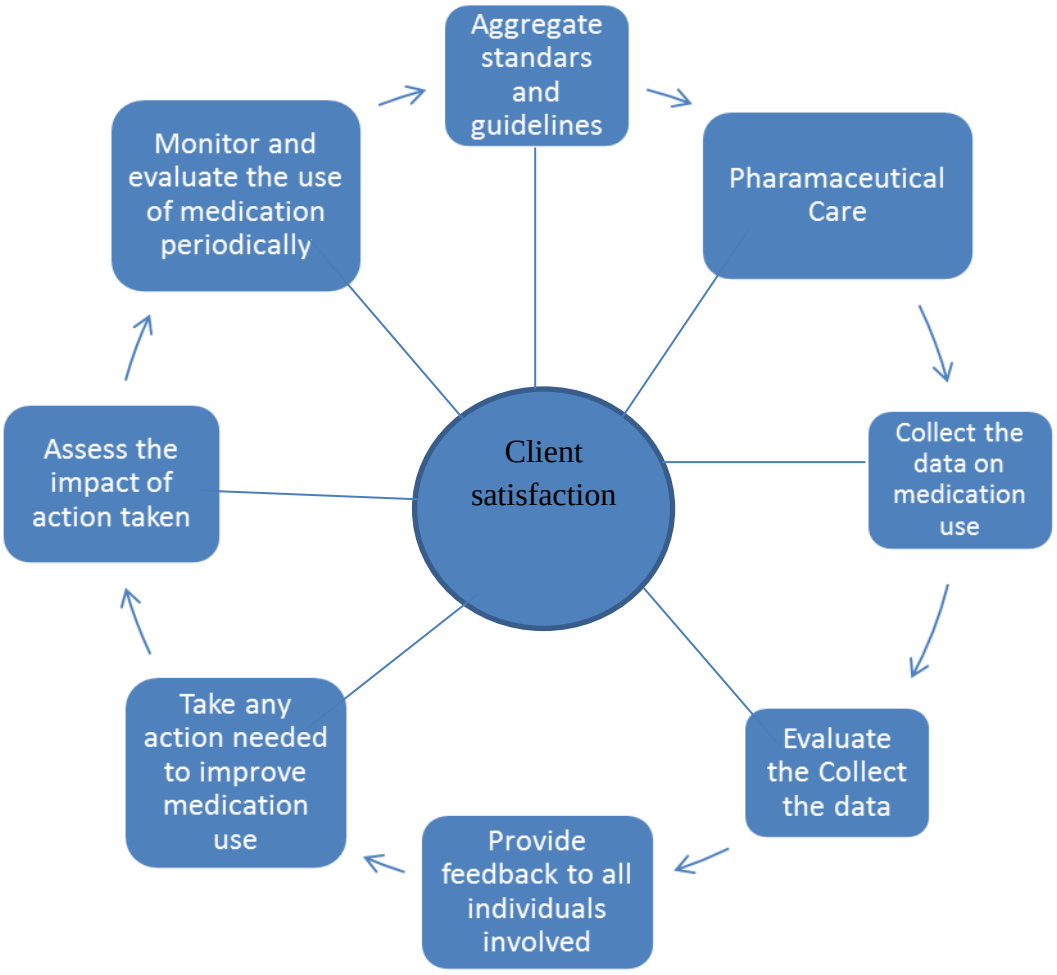

Figure 1: Illustration of the possible cyclic patient satisfaction evaluation process in the community pharmacy.Adapted from: Cipolle RJ, Strand LM, Morley PC. *Pharmaceutical care pactice*. New York: McGraw Hill; 199

The medicine use evaluation and patient pharmaceutical care need to occur in a cyclic and continuous process that may involve forming the hospital medicine therapeutic committee and this committee may be a source of the information and serve as implementation team. The process may include but not limited to regular medicine assessment including aggregate methods, consulting literature on indicators of medicine problems, evaluating medicines, regular review of reports of medication errors and acute deaths reports; Then investigation of the reported problems including outbreak of medication errors, medicines quality problems, medicines non-availability and quality investigation on why a medicines use problem exists. Intervention to correct the medicine use problem through promotion

for rational medicines use and establishing standards is needed. The standards may include Formulary list and criteria, standard treatment guidelines, medicine use evaluation criteria. These processes should be continuous to maintain the high standard of medicine use in the hospital. Adherence to standards may lead into improved pharmaceutical care, which ultimately, will lead into patient satisfaction and improved quality of life.

1.3 Rationale of the study

This study will be adding knowledge among pharmacists and clinicians in general on rational medicines use, therefore, minimizing the medicines-related problems. It will also help policy makers and managers to review the existing or preparation of new medicines use guidelines adjunct with patient counseling, health education on adherence to medication. It will also help in the investigation of the reported problems including outbreak of medication errors, drug quality problems, drug non- availability and quality investigation on why a drug use problem exists. Interventions to correct medicine use problem through promotion of rational medicine use and establishing standards. These standards contain the important information which helps to improve medicine use in the hospital.

1.4 Research questions

i. What is the accessibility level of medicines in the community pharmacy?
ii. How are the dispensers in the community pharmacy practice in their routine services?
iii. What are the dimensions of patient satisfactions on the pharmaceutical care delivered in the community pharmacy?

1.5 Objectives

1.5.1 Broad Objective

To investigate pharmaceutical care delivery and satisfaction among **clients** attending community pharmacies in Dodoma Municipality.

1.5.2 Specific objectives

i. To determine the accessibility of medicines in community pharmacies.
ii. To assess pharmaceutical care delivered in community pharmacies.
iii. To assess patient satisfaction on the pharmaceutical care delivered in community pharmacies.

1.6 Hypothesis

i. Pharmaceutical care delivery is poor in community pharmacies in Dodoma Municipality.
ii. There are no relationships between pharmaceutical care delivery and patient satisfaction.

CHAPTER TWO

2.0 LITERATURE REVIEW

A community pharmacy is a healthcare facility that is able to provide pharmaceutical services to people in a local area or community (Nathan et al., 2005). A community pharmacy dispenses medicines and typically involves a registered pharmacist with education, skills, and competence to deliver professional services to the community. Community-based pharmacists' responsibilities include checking and dispensing of prescription medicines, providing advice on medicine selection and usage to doctors and other health professionals, and counseling patients in health promotion, disease prevention and proper use of medicines (WHO, 2004). There are several factors that may affect delivery of pharmaceutical care in community pharmacies. These factors have been discussed here under.

2.1 Accessibility of Medicines in the community Pharmacy

Availability and affordability are preconditions for universal access. Access is defined as having medicines continuously available and affordable to public or private health facilities or medicines outlets that are within an hour walking distance from homes of the population (United Nations Development Group, 2003). Access to health care is a fundamental right and is included in international agreements and governmental policies and is considered as one of the UN's Millennium Development Goals (MDGs) (United Nations Development Group, 2003). However, many factors affect access to medicines. These include unaffordable medicine prices, poor availability, irrational use of medicines, unfair health financing mechanisms, unreliable medicines supply systems, the quality of medicines and poor adherence (WHO, 2004)

In Africa, a study conducted in five countries: Gambia, Ghana, Kenya, Nigeria and Uganda, reported about 90.1% individuals seek health care outside their homes, of these, 94.7% take medicines and 36.2 % receive antibiotics. Of all those who receive antibiotics, 31.7 % do not receive a prescription from a doctor and about 26.4% obtain antibiotics from an informal dispenser (Vialle-Valentin et al., 2012). Therefore, the role of pharmacists in dispensing medicines is very important and all the resources involved in patient's care, up

to the point of dispensing, may be wasted if dispensing is erroneous **(**Azhar et al., 2009). World Health Organization, (1988) recognizes and advocates the role of pharmacist as 'seven star pharmacist' who is a care giver, decision maker, communicator, leader, manager, lifelong learner and a teacher. Thus, puts a pharmacist in a unique position in health care system for performing these roles. However, in Africa, particularly in Tanzania, the number of pharmaceutical personnel (pharmacists, pharmaceutical technicians and pharmaceutical assistants) is just 29% compared to the total number of all pharmacies in the country (Tanzania Ministry of Health and Social Welfare (MoHSW), 2009). This means, as many as 71% of the pharmacies are served by other cadres outside the pharmacy profession. As per 2014 Ministry of Health and Social Welfare (Tanzania MoHSW, 2014) establishment for facility allocation of pharmaceutical staff, Dodoma municipality indicated to have a minimum of 303 and a maximum of 398 requirements of pharmaceutical personnel (Tanzania MoHSW, 2013). However, an internal survey by the Dodoma regional pharmacist, documented an increase in pharmaceutical staffing levels from 14 in 2011 to 35 in 2014 (Dodoma regional health office, 2014), indicating to meet the requirement by only 1%. Not surprisingly, a recent study found pharmaceutical task shifting in this region to be higher to 95.5% of the surveyed health facilities (Wiedenmayer et al., 2015). This task shifting include delegation of duties to non-pharmaceutically trained cadres comprising nurses, medical attendants or clinical officers who also are burdened with other duties and found to be poorly supervised and not formally supported in their duties**.** This poses a big challenge to the quality of pharmaceutical care and ultimately patients' satisfaction. However, to date the role of pharmacist on patients' satisfaction in Tanzania remains unclear.

Moreover, the availability as a prerequisite to access to medicines depends on the country budget for health. Average per capita spending on pharmaceuticals in high-income countries is 100 times higher than that of low-income countries (WHO, 2008). The World Health Organization (WHO) estimates that 15% of the world's population consumes over 90% of the global production of pharmaceuticals (WHO, 2008). However, in the poorest countries in Africa and Asia, 50% of population lacks access to medicines (WHO, 2008). In a study done in 36 developing countries in 2001–2006, the mean availability of essential medicines for non-communicable diseases (NCD) was 36% in the public sector and 55% in

the private sector (Hogerzei et al., 2013) and the median availability of essential medicines for chronic diseases in six low- and middle-income countries was less than 7.5% (Mendis et al., 2007). These indicate that a population from Dodoma municipality in developing countries like Tanzania is most likely to suffer from inaccessibility to medicines.

2.2 Medicines accessibility and use evaluation

Shortage of essential medicines in Tanzania public health facilities are a major issue and has been persistent despite increasing attention, numerous reforms and initiatives (Wales et al., 2014). Thus, to improve access to treatment in Tanzania a the private retail sector a new class of outlets known as accredited drug dispensing outlets was established (Goodman et al., 200). However, Some essential drugs have been reported to be easily accessible in the health facilities. For instance, artemether lufementrine which is the fist-line for treatment of malaria is accessible by 71% of housholds within 5km to the drug shop (Alba et al., 2006). However, One of the major challenges in pharmaceutical care delivery is ensuring that medicines are used rationally. This requires that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to patients and the community (right dose, right intervals and right duration) (WHO, 2002). However, rational use of medicines remains the exception rather than the rule. For those people who do receive medicines, more than half of all prescriptions are incorrect and more than half of the people involved fail to take them correctly (WHO, 2004). In addition, there is growing concern at the increase in the global spread of antimicrobial resistance, a major public health problem. A recent report by (WHO 2005) revealed findings of up to 90% resistance to original first-line antibiotics such as ampicillin and cotrimoxazole for shigellosis, up to 70% resistance to penicillin for pneumonia and bacterial meningitis, up to 98% resistance to penicillin for gonorrhoea, and up to 70% resistance to both penicillins and cephalosporins for hospital-acquired *Staphylococcus aureus* infections.

In treating patients with modern medicines, several choices of therapy are available rather than just one that all providers must follow. These choices requires a laboratory therapeutic drug monitoring that begins with the appropriate timing of collection and continues through the analytical process to the integration of all data used to guide the clinician's

next decision. Though there are several evidences of a relationship between serum concentration, efficacy, and/or the incidence of adverse or toxic events with antibiotic medicines. However, many of the clinicians including medical doctors, pharmacists and nurses the issues of appropriateness of drug utilization, dosing protocols, and efficacy are beyond the realm of the laboratory (Hammett-Stabler and Johns 1998). This increased number of medicines and treatment options serve to increase the number of irrational medicines treatment encounters and, ultimately, poor patient outcomes. Casual observation, as well as more systematic study of prescribing practices, frequently reveal a pattern of diversity among prescribers in the treatment of even the most common condition. Polypharmacy is one problem; providers may use three, four, five, and sometimes more medicines to treat the most trivial conditions for the sake of satisfying a patient's need to receive medicines (or the pharmaceutical seller's need for profit). Other reasons for polypharmacy include lack of diagnostic competence or confidence and an inadequate knowledge of treatment regimens. Other common medicines use problems are choosing incorrect medicines, prescribing the incorrect dose, prescribing medicines that cause adverse medicine reactions or medicine interactions, and using more expensive medicines when less expensive medicines would be equally or more effective. Therefore, this medicine use problems suggest a need for MUE, especially, in public health services where most of the poor are treated.

2.3 Clients pharmaceutical care

Over the past four decades, the role of the pharmacist has changed from merely medicine supply and dispensing to providing pharmaceutical care (Van Mil et al., 2004). This has been motivated by the rapid rise in the standard of living, life expectancy, quality of services available and patients' rights and freedom (Wensing and Grol, 1998). Thus, pharmacists have been actively involved in prevention and detection of medicine-related problems and intervene in all instances where the desired therapeutic outcome is not achieved (Helper and Strand 1990; Martin-Calero 2004). Increasingly, the pharmacist's task has been to ensure that a patient's medicine therapy is appropriately indicated, the most effective available, the safest possible, and convenient for the patient (Naik-Parvelkar, 2009). By taking direct responsibility for individual patient's medicine- related needs, pharmacists can make a unique contribution to the outcome of medicine therapy and

to their patients' quality of life. This new approach has been given the name pharmaceutical care.

In developing and industrialized countries alike, efforts to provide health care, including pharmaceutical care, are facing new challenges. These include the rising costs of health care, limited financial resources, a shortage of human resources in the health care sector, inefficient health systems, the huge burden of disease, and the changing social, technological, economic and political environment which most countries face. The practice of pharmaceutical care is new, in contrast to what pharmacists have been doing for years. In order to fulfill this obligation, the pharmacist needs to be able to assume many different functions. The concept of the seven-star pharmacist, introduced by World Health Organization (WHO) and taken up by International Pharmaceutical Federation (FIP) in 2000 in its policy statement on Good Pharmacy Education Practice, sees the pharmacist as a unique health care giver (WHO, 1997).

Over the past 40 years, the pharmacist's role has changed from that of compounder and dispenser to one of "medicine therapy manager" (van Mil, Schulz and Tromp, 2004). This involves responsibilities to ensure that wherever medicines are provided and used, quality products are selected, procured, stored, distributed, dispensed and administered so that they contribute to the health of patients, and not to their harm. Thus, the scope of pharmacy practice now includes patient-centred care with all the cognitive functions of counseling, providing medicines information and monitoring medicine therapy, as well as technical aspects of pharmaceutical services, including medicines supply management. It is in the additional role of managing medicine therapy that pharmacists can now make a vital contribution to patient care. With growing emphasis on consumerism and competition in the health care system, patients' assessments of care have been advocated as an essential component of quality assessment (Donabedian, 1983, Clearly and McNeil 1988). Therefore, in recent years, Patients' evaluation of care has become a prominent method of assessing the quality of health care services (Rubin et al., 1993).

2.4 Clients satisfaction

Historically, patient satisfaction has been recommended as an individual's evaluation of distinct dimensions of their health care (Ware, 1975; Donabedian, 1975) and outcome of healthcare delivery (Donabedian, 1975). Patient satisfaction assessment has been justified to be an important measure of outcome in pharmaceutical care as it is associated with treatment adherence and loyalty of patients to their healthcare providers (Grogan et al., 2000). Patient satisfaction has been also reported to be important when implementing health services (Mira and Aranaz 2000). The reason pertaining to this is because it can be used to rate the service quality also can provide vital information on continuous monitoring and quality improvement in health care delivery systems (Grogan et al., 2000). Humanistic outcomes are now included in all evaluative efforts as they depict the value of a pharmaceutical service beyond the traditional clinical-based outcomes and are patient rather than provider centred (Gourley and Duncan, 1998). Thus, in recent years researchers developed several instruments to measure the patient satisfaction in relation to pharmaceutical treatment and the related delivery of pharmacist care. For instance, Ware et al. (1983) developed the patient satisfaction questionnaire (PSQ), which has been evaluated and validated into different countries (Traverso et al., 2007) and to date continues to be one of the most widely used tools to assess patient satisfaction in health care services including pharmacy- based services.

Schommer and Kucukarslan (1997) classified pharmaceutical services based on four conceptualizations of patient satisfaction: performance evaluation (patient assessment of service aspects), disconfirmation of expectations (gap between expectation and actual experience), affect-based assessment (emotional response to service) and equity based assessment (perception of fairness). Therefore, patient evaluations may help in identifying patient needs, perceptions, concerns and areas of service failure and may encourage health care providers to be accountable for the quality of service delivered (Ford et al., 1997). These studies indicate a clear need for evaluating this pharmaceutical service delivery in different models. Since in Tanzania there are public as well as private pharmaceutical services and most people are likely to attend public services because of cost effectiveness and availability of professional health professionals including pharmacists. Thus, evaluation of public pharmaceutical care delivery may be helpful for improvement of patient care and patient's quality of life.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study Area

Dodoma Region is situated in the central part of Tanzania and it is the capital city of Tanzania as passed by the National Assembly in the year 1962. Dodoma as a region consists of six administrative Districts namely; Bahi, Kongwa, Kondoa, Mpwapwa, Dodoma rural and Dodoma urban. Dodoma urban is the study area. The health services in Dodoma town are provided by public and private sectors in order to improve the wellbeing of the people with focus on most at risk. Dodoma urban consists of an area of square kilometer 2576 with 4 divisions, 30 wards and 42 villages. The reason for choosing Dodoma as the study area, first of all, nowdays there is an increase in population in Dodoma area,with population of about 202,665 in 1998 then 322,811and 410,956 (National Bereau statistics,2012) indicating an increase of about 22% for the past 10 years. hence to improve health care delivery system there is a need of doing evaluation of pharmaceutical care delivery and satisfaction among clients.

3.2 Study Design

Cross-sectional survey has been carried out at community pharmacies in Dodoma municipality. This helps the researcher to determine the magnitude of pharmaceutical care and patient satisfaction.

3.3 Study population

The study population included adults aged 18 years and above, attending community pharmacies in Dodoma Municipality for their health care.

3.4 Inclusion and Exclusion Criteria

3.4.1 Inclusion criteria

The inclusion criteria in this research were;

- All adult patients aged 18 years and above
- **Clients** who understood and communicated well

- **Clients** who were attending community pharmacies in Dodoma Municipality
- Clients never participate in similar study before

3.4.2 Exclusion criteria

- Not willing to participate,
- Mentally unfit.
- Not able to speak English or Swahili.
- Younger than 18 years of age.
- Clients who participated in similar study before

3.5 Sample size calculation

The sample size was calculated by using the following formula.

$$N = \frac{Z^2 P (100-P)}{\varepsilon^2} = \frac{z^2 P (100\% - P)}{\varepsilon^2}$$

$$N = \frac{3.84 \text{ X } 41 \text{X } (100 - 41)}{5 \text{ X } 5} = 371.55$$

Thus, the sample size was 372 participants.

Whereby N = the sample size,

ε = significance level

P = Proportion of patients who are satisfied with pharmaceutical care; this was derived from a study conducted by Twaweza, (2014).

3.6 Sample size and names of pharmacies

The following were the names of 21registered pharmacies in Dodoma municipality used in this study. These pharmacies were, Upendo pharmacy, Providence pharmacy, Erohim Pharmacy, Btj pharmacy , Bunya pharmacy ,Blue Pharmacy, Twins pharmacy ,Bachu pharmacy, Central pharmacy, Majengo pharmacy, Vikonje pharmacy, Kavula pharmacy, Graciers pharmacy, Great ruaha pharmacy, Global pharmacy, Dawa plus pharmacy, Muna pharmacy, Mackay pharmacy, Dream land pharmacy and Macra pharmacy.

Table 1: shows the names of registered pharmacies and the number of participants from each pharmacy.

NAME OF PHARMACY	NUMBER OF PARTICIPANTS
UPENDO	26
PROVIDENCE	26
GRACIERS	17
ELOHIM	17
DREAM LAND	17
BTJ	17
BUNYA	17
DAWA PLUS	17
BLUE	17
TWINS	17
MACRA	17
BACHU	17
GLOBAL	17
CENTRAL	17
GREAT RUAHA	17
MAJENGO	17
VIKONJE	17
MUNA	17
KAVULA	17
FM pharmacy	17
MACKAY	17
TOTAL	375

3.7 Sampling technique

Dodoma Municipality consists of 21 registered community pharmacies which are located throughout the entire municipality. To avoid heterogeneity of the pharmaceutical care provided between rural and urban only pharmacies in urban were selected. The reason is because most rural areas have no trained pharmacists and pharmaceutical technicians, all 21 community pharmacies in Dodoma municipality were included; patients attending the community pharmacy were selected by simple random sampling by using a random number table. The random number table helps the researcher to select participants according to their flow in each community pharmacy. Only an adult attending a particular selected community pharmacy was selected to be included in the study. Participants were taken from each of the 21 pharmacies, the distribution were as follows, 26 participants from each of these two pharmacies namely Upendo pharmacy and Providence pharmacy, this is because these two pharmacies are near to the hospital hence the flow of participants was higher comparing to the other pharmacies, and the rest of the other pharmacies only 17 participants were selected from each of these other pharmacies.

3.8 Data collection Tools

General demographic questionnaire and patient satisfaction questionnaire were used. The demographic questionnaire required participant's information on age, place of residence, gender, occupation, marital status, education and income. These tools were validated and evaluated for use in patients. The three tools are in Annex II and III. The patient satisfaction questionnaire represent the six pharmaceutical domains described by including developing a relationship, assessing the respondents, clarifying the role of medications, developing a pharmacy care plan, working collaboratively with other health care providers, and providing follow-up to patients (Annex I). The Patient care planning which is a core of the pharmaceutical care involves systematically assessing a patient's health problems and needs, setting objectives, performing interventions, and evaluating results. However, not all patients require a written pharmaceutical care plan (Cipolle, 1998). Therefore, pharmacists must assess their own patients and identify specific areas on which to focus in their care delivery.

Additionally, the researcher assessed the accessibility of medicines. The medicines were derived from the list of medicines which has been proposed by various disease programmes in WHO for inclusion in the service availability and readiness assessment methodology (WHO, 2010; WHO/Health Action for International (HAI), 2008). These guidelines recommended that all surveys on availability or accessibility of medicines should collect, at a minimum, data on the global list of 14 medicines included in (WHO/HAI surveys WHO/Health Action for International (HAI), 2008). However, these guidelines also recommend that the inclusion of additional medicines should be based on national treatment guidelines, local disease patterns and other priorities. Where possible, the use of the WHO/HAI methods of collecting, entering and analyzing data are strongly encouraged. Bearing this in mind, in the current study we included artemether-lumefantrine (ALU) in the 14 medicines WHO/HAI list that include Paracetamol, Diclofenac, Atorvastatin, Glibenclamide, Ciprofloxacin, Captopril, Omeprazole, Ceftriaxone, Amitriptyline, Amoxicillin, Co-trimoxazole, Diazepam, Atenolol and Salbutamol. Thus, Atorvastatin which is anti-cholesterol was replaced with ALU which is the first-line treatment for malaria, a prevalent disease in Tanzania (Alba et al., 2010).

3.9 Pre- testing of data collection tools

The study instrument was tested for validity, reliability and feasibility by using a pilot study of 20 randomly selected patients from community pharmacies outside Dodoma municipality; it was done in Mpwapwa District away from my study site. These patients were excluded during actual data collection, in order to avoid contamination of the study. During the study the participants were asked if they have ever involved in the study like this where and when, this information will help me to include or exclude the participants. Results of the pilot study were used to check if the questions were well understood by the participants, if the sequence of the questions were logical and if there was a need for any modification. Some of the questions were removed or rephrased and new ones were added.

3.10 Data collection Procedure

The respondents were recruited and were required to complete a 15-question survey. This involved their expectations regarding pharmaceutical care-related activities while attending in community pharmacy and a parallel 15 questions about their experiences while

attending in this particular pharmacy. The survey questions represent the six pharmaceutical domains described by including developing a relationship, assessing the respondents, clarifying the role of medications, developing a pharmacy care plan, working collaboratively with other health care providers, and providing follow-up to patients(Annex I). Questions were phrased as service delivery features and asked the patients about their expectations regarding Pharmaceutical care-related activities while shopping in community pharmacy. Responses were recorded using a five-point Likert letter scale of disagreement/ agreement, i.e., strongly disagree, disagree, neutral, agree, and strongly agree. The survey also collected information regarding brief demographic data and accessibility of medicines in the community pharmacy. Three questionnaires are in (Annex II).

3.11 Data analysis and interpretation

Double data entry into the statistical Package for Social Sciences (SPSS, version 20.0) for statistical analysis was done. Data from the questionnaire was reviewed to identify consistencies and differences; the data were coded then quantified.

Prevalence was reported as percentage and 95% confidence intervals. The outcome measures were compared between pharmaceutical care and satisfaction by using Chi-square and student t-test. Statistical significance accepted at $p<0.05$. Proportion of accessibility of medicines and pharmaceutical care also was calculated. Patients satisfaction with pharmaceutical care delivered were calculated by using appropriate statistical tests. These included chi-square, ordinal logistic regression and student t-test.

The total satisfaction was categorized into two categories according to the scores such that satisfied (>25 total scores) and not satisfied (<25 total scores). The half neutrality scores were included into either satisfied or not satisfied group. The categories were derived from other studies (Sitzia and Wood, 1997) that reported that the scores for the in-store experience of higher than the mid-scale "neutral" rating to fall in satisfied group.

3.12 Ethical considerations

Ethical approval to conduct the study was obtained from Muhimbili University of health and Allied Sciences (MUHAS) Senate research and Publication Committee. Before starting the research field, Permission and approval was also obtained from the Dodoma Municipal Executive Director). Informed consent was obtained from each participant. In order to allow them to make an informed choice, informed consent including description of the aim and advantages of the study, the foreseeable and anticipated risks, and care for psychological trauma resulting from the study and its duration was specified. The participants were free to withdraw from the study without any penalty. The participants reassured about confidentiality by anonymity to their shared information.

CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Demographic data of participants

Demographic characteristics of the study sample are shown in Table 2. There were 375 responses to the survey. The calculated sample size was 371 for a confidence interval of 95% and margin of error of 5%. The 10% of the calculated sample was added for contingency making a total sample size of 412.The participants who responded to the interview were 375, making a response rate of 90%. Participants' ages ranged from 18 to 70 years with majority of participants with the mean age of 40.78±11.78. More than half of all participants 209 (71.7%) were married.Majority of the participants had tertiary education 184(49.1 %). Majority were employed in private enterprise and Peasants were 142 (37.9%) with minority 131 (35.0 %) having an income of more than 300,000/Tsh per month.

Table 2. Demographic characteristics for patients consulting the pharmaceutical care for the total sample

Variable	Number	Percentage
Place of Residence		
Rural	47	12.5
Urban	327	87.5
Gender		
Male	169	52.9
Female	206	47.1
Education		
Primary	22	5.9
Secondary	169	45.1
Tertiary	184	49.1
Marital status		
Married	209	71.7
Single	8	2.1
Separated	77	20.5
Widow/widower	2	0.5
others	19	5.1
Occupation		
Peasants	28	7.5
Petty traders	59	15.7
Rely on partner	142	37.9
Public servant	82	21.9
Income/month		
>30,000	11	2.9
30,000 -100,000	65	17.3
100,000 -300,000	168	44.8
>300,000	131	35

4.2 Reliability and Validity of the Patient satisfaction questionnaire (PSQ)

4.2.1 Reliability

The questionnaire with 15 items was having a mean total score 21.80 (5.969). The Cronbach's alpha coefficient was 0.7 for the total scale, suggesting good internal consistency.

4.2.2 Construct Validity

Categorization of items into factors was determined through Principal component analysis. The Principal Axis Factor (PAF) is shown in Table 3 with a Varimax (orthogonal) rotation of these factors being demonstrated in Figure 2. From the component analysis five factors was found. As shown in Table 5. The Factor 1 included 3 items; number 7, 12 and 13, and were collectively termed as was named as knowledge on medications. Factor 2 (2 items), Factor 2 (6 items: number 3, 4, 5, 9, 10, and 11), were given the name Information sharing and education. Factor 3 (2 items; number 1 and 8), was named Customer care. Factor 4 (3 items, number 2, 14, 15) and was termed as Monitoring the Progress, Factor 5(one item, number 6) and was termed as Monitoring the Outcome.

Table 3. Principal components categorization indicating the Five Factors from the Patient Satisfaction on Pharmaceutical care

	Principal Component Matrix					
No.	**Items**	**Principal Components**				
		Factors				
		1	2	3	4	5
1	Pleasant and courteous pharmacy staff	-.392	-.047	.485	.104	.276
2	Reasonable privacy for discussions	.323	-.050	.242	.502	.336
3	Ask if I have any concerns about my medications	.379	.511	.507	.294	.194
4	Share decision-making responsibilities	.422	.589	.411	.218	-.042
5	Ask about my existing medical conditions	.464	.589	.030	.133	-.437
6	Ask how well medical conditions are controlled	.354	.379	-.380	.205	-.508
7	Ask me questions about my various medications	.503	.393	-.524	.002	.415
8	Discuss different medical options available	.501	.314	-.596	-.116	.424
9	Explain how each medication is supposed to work	.430	-.448	-.191	.055	.173
10	Develop a written care plan	.532	-.622	-.021	.050	-.027
11	Offer variety of information sources; print, video, brochures etc	.558	-.618	-.124	.132	-.248
12	Work with doctor and me to ensure best medications	.513	-.443	.162	.298	-.070
13	Explain what to do if side effects	.605	-.299	.311	.022	.044
14	Explain how to know if medications are working	.525	.065	.289	-.699	.022
15	Phone ask between refills if medications are working	.489	.072	.345	-.667	-.037

4.3 Accessibility to medications

4.3.1 Prevalence of accessibility of medicines

As shown in Table 4, the accessibility of medicines in Dodoma municipality was determined and it was found that paracetamol (49.3%), diclofenac (42.7%) and artemether-Lumefantrine (ALU) (29.5%) to be the highly accessible drugs in Dodoma Municipality community pharmacies. Atenol (7.2%) and salbutamol (6.4) were the least accessible drugs.

Table 4. Accessibility of medicines in community pharmacies of Dodoma Municipality

Name of drugs	Number of participants	Frequency
Paracetamol	185	49.3
Diclofenac	160	42.7
ALU	111	29.5
Glibenclamide	93	24.8
Ciprofloxacin	64	17.1
Captopril	58	15.5
Omeprazole	57	15.2
Ceftriaxone	55	14.7
Amitriptyline	54	14.4
Amoxicillin	49	13.1
Co-trimoxazole	43	11.5
Diazepam	29	7.7
Atenolol	27	7.2
Salbutamol	24	6.4

4.3.2 Patterns of accessibility of medicines

The patterns of medicines have plotted in the Figure 2. Though with some overlaps, generally, the accessibility showed to follow the pattern of higher accessibility of analgesics (paracetamol and diclofenac) and anti-malarial (ALU) then followed with diabetic diseases (Glibenclamide). Then low accessibility was dominated with antibiotics (Ciprofloxacin, Ceftriaxone, Amoxicillin,) with the least accessible medicine being the drugs for respiratory spams (salbutamol).

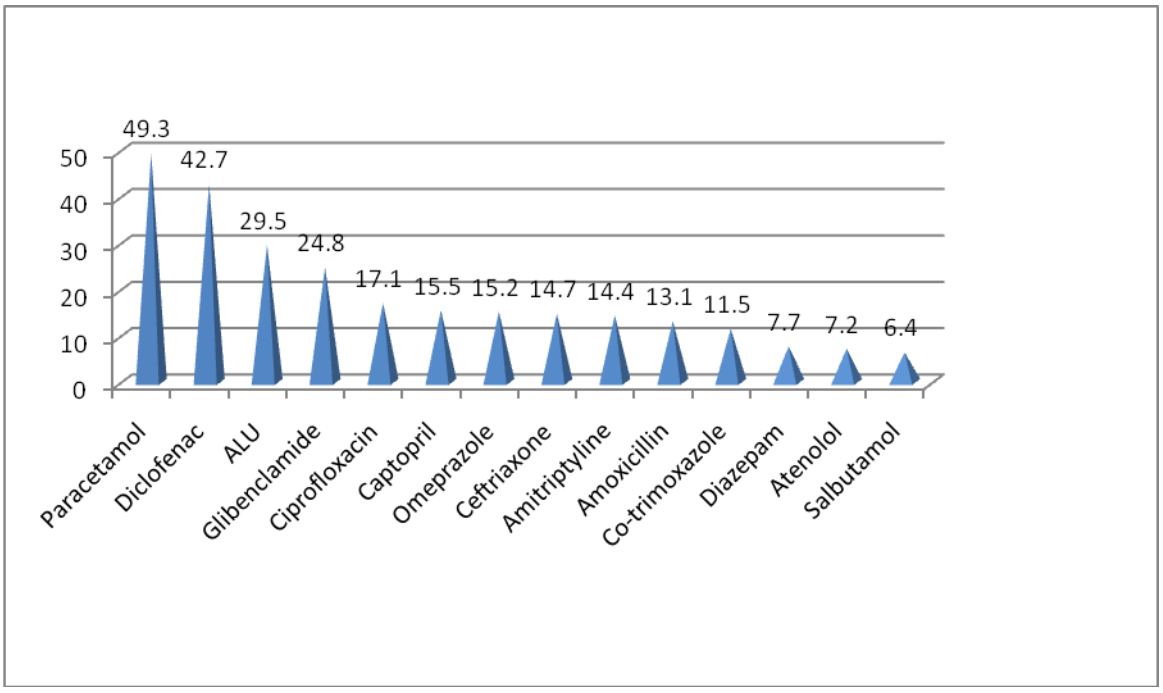

Figure 2. Availability of medicine in Dodoma municipality community pharmacies

4.4 Client satisfaction with pharmaceutical care

The item-by-item and overall client satisfaction were determined. The findings for these results are presented here below:

4.4.1 Item-by-item client satisfaction with pharmaceutical care

Table 4 reports the item-by-item after one sample student t-test analysis for the differences of satisfaction between those who strongly disagreed, disagreed, neutral, agreed and strongly agreed with the pharmaceutical care provided. The findings indicated that the shortfalls for all 15 items to be statistically significant ($P< 0.05$). Furthermore, shortfall differences for the overall scale scores were also found to be statistically significant ($P< 0.001$).

Table 5: Item-by-item patient satisfaction with pharmaceutical care

Items	t	df	*P-value*	95% Confidence Interval of the Difference	
				Lower	Upper
Pleasant and courteous pharmacy staff	77.740	374	.000	2.83	2.97
Reasonable privacy for discussions	60.581	374	.000	2.49	2.66
Ask if I have any concerns about my medications	61.076	374	.000	2.48	2.64
Share decision-making responsibilities	38.960	374	.000	1.88	2.08
Ask about my existing medical conditions	34.233	374	.000	1.49	1.67
Ask how well medical conditions are controlled	34.116	374	.000	1.34	1.50
Ask me questions about my various medications	33.116	370	.000	1.32	1.48
Discuss different medical options available	33.359	374	.000	1.24	1.40
Explain how each medication is supposed to work	33.456	373	.000	1.22	1.38
Develop a written care plan	28.168	374	.000	1.24	1.42
Offer variety of information sources; print, video, brochures etc	31.438	373	.000	1.20	1.36
Work with doctor and me to ensure best medications	26.140	374	.000	1.12	1.31
Explain what to do if side effects	18.015	373	.000	.82	1.03
Explain how to know if medications are working	13.227	373	.000	.50	.68
Phone ask between refills if medications are working	9.463	368	.000	.28	.43

4.4.2 Client satisfaction with pharmaceutical care according to the revealed factors

Chi-square analysis for the categorical variables and Ordinal logistic regression was performed to predict the influence of demographic data on the patient care satisfaction. The researcher found that the place of residence to a significant factor in determining the satisfaction on monitoring the outcome(X^2 =5.869, df = 2, p=.0.053). Moreover, there were other demographic characteristics that were found to be significant, these include gender which was significant factor in determining the information sharing and education (X^2 = 5.754, df=1, p=.016), perceived cost was a significant factor in determining the customer care (X^2 = 20.227, df=2, p ≤ .0.001) and education significantly determined the satisfaction in monitoring the progress of pharmaceutical care (X^2 = 9.043, df=2, p=.0.011).

Table 6. Satisfaction of pharmaceutical Care Based on Demographic characteristics

	CLIENTS SATISFACTION									
Satisfaction	Knowledge on medications (FA1)		Information sharing and education (FA2)		Customer care (FA3)		Monitoring the Progress (FA4)		Monitoring the Outcome (FA5)	
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**
	318	52	242	131	30	345	339	30	299	76
Statistical test	X^2		X^2		X^2		X^2		X^2	
Residence	.219, df=2, p=.896		.283, df=2, p=.868		.283,df=2, p=.868		0.110=df=2, p=0.947		5.869, df=2, p=.053	
Gender	1.003, df=1, p= .317		5.754, df=1, p=.016*		.321,df=1, p=.571		.369, df=1, p=.544		.338,df=1, p=.561	
Age [c]	.885,df=1, p=.347		.233df=1, p.= 629		.001,df=1, p = .970		.646,df=1, p = .422		.672, df=1, p =.412	
Education	1.900,df=2,p= .387		2.288, df= 2, p=.319		2.992, df=2, p=.224		9.043, df=2, p= .011*		1.290,df=2, p=.525	
Marital status	2.365, df=4, p= .669		3.212, df=4,p= .523		7.426,df= 4, p=.115		1.250, df=4,p=.870		5.613,df=4, p=.230	
Income	7.703, df=4, p=.103		4.064, df=4, p= .393		1.003, df=4, p=.909		15.695, df=10.014, p=1.981		5.359, df=4, p=.252	
Perceived cost	.165, df=2, p=.921		3.001, df=2, p=.223		20.227,df =2, p ≤ .001*		.137, df=2, p=.934		.572,df=2, p=.751	

Note: Ordinal regression analysis (Wald) are used for continuous variables (denoted as [c]) and x^2 used for discontinuous or categorical variable, *p < 0.05

4.4.3 Correlation of Demographic characteristics and overall satisfaction

As shown in Table 7 above, the current study assessed the total patient satisfaction for all 15 items, the average respondent either "agreed" or "strongly agreed" to be satisfied with pharmaceutical care provided in that particular pharmacy were regarded as satisfied and those with strongly disagree and disagree were regarded as not satisfied. In this study, the researcher found no any demographic characteristic with statistical significant difference.

Table 7. Demographic characteristics and overall satisfaction to pharmaceutical care (n=375)

Variable	Category	Satisfaction		Statistical Measures		
		No	Yes	X^2	df	P-value
Place of Residence	Rural	33	14	.581	2	.748
	Urban	240	87			
Sex of Respondent	Male	129	40	1.666	1	.197
	Female	145	61			
Marital Status	Married	193	76	7.373	4	.117
	Single	6	2			
	Separated	59	18			
	Widow/widowers	0	2			
	Others	16	3			
Occupation	Peasant	18	10	4.072	4	.396
	Petty trader	43	16			
	Employed in a private enterprise	108	34			
	Public servant	55	27			
	Private business	50	14			
Level of Education	Primary	14	8	1.753	2	.416
	Secondary	121	48			
	College and above	139	45			
Income per month	Below Tsh 30,000 per month	9	7	6.188	4	.186
	Tsh 30,000-100,000 per month	145	5			
	Tsh 100,000-300,000 per month	130	5			
	Above Tsh 300,000 per month	90	19			
Cost of the drug	Very high	8	0	.863	2	.649
	High	44	17			
	Moderate	63	19			
	Cheap	2	0			

*Statistically significant at P<.05

CHAPTER FIVE

5.0 DISCUSSION

The aim of this study was to investigate the pharmaceutical care delivery and satisfaction among patients attending community pharmacies in Dodoma municipality. The PSQ was used for measurement of quality of pharmaceutical care services offered in community pharmacies in Tanzania. The findings of this study revealed that the modified PSQ which took into account the Tanzanian participants' culture including Kiswahili and health seeking behavior have acceptable reliability, design and content validity. The findings indicated the shortfalls for all 15 items to be statistically significant ($p < 0.001$). Furthermore, the researcher found five important dimensions including knowledge on medications, customer care, information sharing and education, monitoring the progress, and monitoring the outcome. This multidimensional construct remains consistent with other studies including a study from Argentina (Traverso et al., 2007) and America (Blazejewski et al., 2013), though with some differences on the number of dimensions as their assessment revealed three components. Nevertheless, this study provides insight that pharmaceutical care practice should be implemented in community pharmacies, also warrants use of validated tools for a continuous assessment of the quality of the pharmaceutical care services provided.

In the current study, it was found that the gender was a significant factor in determining the information sharing and education, perceived cost was a significant factor in determining customer care satisfation and education significantly determined the satisfaction in monitoring the progress of pharmaceutical care. Also, the accessibility of medicines was generally found to follow the pattern of higher accessibility of analgesics (paracetamol and diclofenac) and anti-malarial (ALU) then followed with Diabetic diseases (Glibenclamide) with low accessibility being dominated with antibiotics (Ciprofloxacin, Ceftriaxone, Amoxicillin. This trend reflects the cost and dispensing patterns of medications that determine client's satisfaction. Therefore, this study provides a highlight that individuals place of residence, gender, perceived cost and level of education might be the significant factors in determination of client satisfaction with pharmaceutical care.

5.1 Development of PSQ

Historically, researchers such as (Donabedian 1966) recommended measuring ‘‘patient satisfaction’’ as an outcome of care. Other researchers, such as Ware et al. (1975), considered patient satisfaction as a multidimensional construct and defined it as an individual’s evaluation of distinct dimensions of their health care. Ware et al. developed the patient satisfaction questionnaire (PSQ), which todate continues to be one of the most widely used tools to assess patient satisfaction in health care services including pharmacy-based services (Christensen and Farris, 2006). In health services literature, though there is no consensus regarding a particular theoretical framework on which patient satisfaction may be assessed, satisfaction in general is extensively measured using a multidimensional construct (Christensen and Farris, 2006). In the current study, the researcher found the PSQ to display five important dimensions including knowledge on medications, customer care, information sharing and education, monitoring the progress, and monitoring the outcome. Hence, the tools used in this study, were validated and evaluated for use in patients.

5.2 Accessibility of medicines

In this study we assessed the accessibility of medicines from the global list of 14 medicines included in WHO/HAI surveys (WHO/HAI, 2008). Since the WHO/HAI methods of collecting, entering and analyzing data are strongly encouraged thus, the researcher made a minor modification of the list by including ALU. This inclusion of additional medicines also based on national treatment guidelines and local disease patterns. The researcher found the pattern of higher accessibility of analgesics (paracetamol and diclofenac) and anti-malarial (ALU) then followed with diabetic diseases (Glibenclamide) with low accessibility being dominated with antibiotics (Ciprofloxacin, Ceftriaxone, Amoxicillin, reflecting the pattern of diseases, cost and availability of these medicines in Tanzania. A Twaweza survey conducted in 2013 found 41% of patients did not get directly from a public health facility the medicines they needed (Wales et al., 2014); indicating the possibility that majority of clients might resort in private community pharmacies. Moreover, this study consistent with a recent study conducted in Dodoma municipality and reported the mean availability of 26 medicines in all health facilities of Dodoma Region to be 53% with significant variability between types of health facility (Wiedenmayer et al., 2015). Stock-out rates were higher in health facilities without pharmaceutical staff such

that 52% in dispensaries, 56% in health center and 77% in district or regional hospitals. Corresponding mean stock-out rates in all facilities were in the order of 47%. Hospitals had higher availability of medicines. However, the mentioned study was conducted in hospitals; therefore, this difference may have been driven by the presence of pharmacists in hospitals which is contrary to most community pharmacies with limited number or no pharmacists. Therefore, the described pattern of medicine in this study highlights the situation of accessibility of medicines in community pharmacies that can reflect clients' satisfaction.

5.3 Patient Satisfaction with Pharmaceutical Care

In the current study, the researcher assessed the Overall patients' satisfaction to pharmaceutical care for all 15 items by categorizing the patients' response into two categories: satisfied (>25 total scores) and not satisfied (<25 total scores). The researcher found the demographic characteristics including sex, marital Status, occupation, income, and cost of the drug to be not statistically significant ($p>.05$), suggesting that these variables might not play a key role in patient satisfaction to pharmaceutical care. These results are in agreement with other studies from Tanzania particularly from Muhimbili National Hospital and Amana hospital that reported patients to be unsatisfied with staff attitude towards them rather than patients or clients characteristics (Muhondwa et al., 2008;Rwebangila and Kagashe, 2011).

Larson et al.(2002), who modified the patient satisfaction questionnaire to measure patient satisfaction with pharmaceutical care to eight community pharmacies in Iowa (USA), and found both pharmacists/pharmaceutical careers charactristics to be the significant factors for patient satisfaction with pharmaceutical care rather than patients characteristics. Patient satisfaction has been described as a patient's personal evaluation of health care services and providers (Ware at al., 1983). Therefore, patient satisfaction refers to patient's preferences and expectations that may be viewed as the determinants of satisfaction, whereas the elements of care (e.g., technical and interpersonal aspects) are the components of satisfaction (Sitzia and Wood, 1997). Though satisfaction has also been criticized to be more subjective (Larson et al., 2002), yet, it remains to be the most reliable measure that reflects the realities of care as well as the preferences and expectations of the patient because it provide patient's evaluation of the pharmacist's performance of a variety of

patient care activities (Schommer and Kucukarslan, 1997). Therefore the findings in this study which is poor patient satisfaction, this is likely to reflect the actual patient experience towards satisfaction of pharmaceutical care.

Furthermore, in this study the researcher performed exploratory analysis and found the Patient satisfaction questionnaire to present with five factors. These factors are discussed below;

5.3.1 Knowledge on Medications

In the current study, the researcher found Factor 1 that included 3 items; ask me questions about my various medications, work with doctor and me to ensure best medications and explain what to do if side effects happen. These were collectively termed as knowledge on medications and showed no any statistical difference with the demographic and social determinants. However, the role of knowledge in improving pharmaceutical care can not be overlooked. The pharmacists and other professionals are required to knowledgeable on pharmaceutical care and deliver the appropriate information on medications to clients. This can be considered by combining certain parts of the pharmacists' curriculum with the medical education (King et al., 2013). This can stimulate the communication between the two: health professionals and clients thus generating a mutual respect. If pharmacists are to perform the full scope of pharmaceutical care activities, then skills on teaching and communication with clients, and possibly the relatives and careers of a particular client are necessary.

5.3.2 Information Sharing and Education

In this study it was found that, factor 2 (6 items) including Knowing whether the pharmacists asked if they have any concerns about my medications, sharing decision-making responsibilities, ask if the participants about their existing medical conditions, explain how each medication is supposed to work, develop a written care plan, Offer variety of information sources; print, video, brochures etc. The above items was named as information sharing and education and was found with statistical significant difference between male and female ($x^2 = 5.754$, df=1, p=.016). It is well known that in Tanzania males and females are disproportionally educated. This can explain the differences of satisfaction on information sharing and education between males and females. Alternatively, the observed differences in this study may be explained by the possibility

that about 95.5% of the public health facilities in Dodoma Region, pharmaceutical care are handled by medical attendants, clinical officers or nurses who are not otherwise trained as pharmacists (Wiedenmayer et al., 2015).

Generally, the African region has the most intense pharmacy workforce crisis, with an average of only 0.55 pharmacists per 10,000 populations (FIP: Global Pharmacy Workforce Report., 2012). In 2009, the pharmaceutical human resources report of Tanzania (Tanzania MoHSW, 2009) identified a total of 640 pharmacists, 479 pharmacy technicians, and 376 pharmacy assistants with a mean density of pharmacists of only 0.18 per 10,000 populations nationally. Therefore this study finding confirms the impact of critical shortage of trained pharmaceutical staff. The pharmaceutical human resources report of Tanzania (Tanzania MoHSW., 2009). Revealed a total number of pharmaceutical personnel (1495) which is insufficient to staff the 5241 health facilities and pharmaceutical outlets in the country (Tanzania MoHSW; 2009). The report showed that pharmaceutical services are provided by unqualified (non-pharmaceutical) personnel in over 70% of the facilities. Therefore, to improve information sharing and education in pharmaceutical care there is a need to train enough pharmacists in the long term plan and close the gap between males and females on education. Perhaps with the current situation, there is an urgent need to recruit and train those who provide pharmaceutical care by task-shifting approach.

5.3.3 Customer care

Customer care which expressed as the heart of all successful services, it is helpful in developing a loyal base and improve relationships with customers (Cipolle, Strand and Morley, 1998). In this study the author found perceived cost (x^2= 20.227, df = 2, p< 0.001) to be significantly associated with customer care dimension of patient satisfaction with pharmaceutical care delivery. The customer care dimension was categorized as factor 3 and included 2 items namely, pleasant and courteous pharmacy staff and if they discussed different medical options. This is consistent with other studies from Europe and Asian that reported perceived costs to be a single most important community predictor of customer care loyalty (Xu et al 2002; Merks et al. 2014). A study from Tanzania revealed costs including drugs, transportation, and supplementary food costs to the barriers towards accessibility of pharmaceutical care especially the antiretroviral therapy (Mshana et al., 2006). Moreover, majority of pharmacists in Tanzania tend to work mainly in urban areas

and at higher levels of the health system. This imbalance poses a major challenge to the provision of pharmaceutical services, particularly in rural areas where the majority of the poor population lives (FIP: Global Pharmacy Workforce Report., 2012). Therefore, there is a need for pharmaceutical care to be a responsibility shared by all health professionals involved in handling pharmacy services delivery.

5.3.4 Monitoring the Progress

In a schematic way, Helper has depicted the process of pharmaceutical care as a damming quality improvement cycle (Helper and Strand, 1990). In this study, the researcher found that Factor 4 which included 3 items; if there was reasonable privacy for discussions, explained how to know if medications were working, and phone to ask between refills if medications were working, and were termed as Monitoring the Progress. This significantly predicted by participants education ($x^2 = 9.043$, df= 2, p = 0.011). Monitoring the Progress of pharmaceutical care requires understanding of the way to prevent, detect and correct drug-related problems in a patient. It involves systematical analysis of patient's medicine profile and his/her medicine use behavior. Thus, the therapeutic objectives of the drug treatment should be assessed. After dispensing the medication, the patient should be monitored whether the therapeutic objectives are reached, and whether unwanted effects are occurring. If any drug-related problem becomes evident, the pharmacist (or another professional) then should reassess the therapeutic objectives and the therapeutic plan, respectively. Indeed, the care can only be provided when a good relationship with the patient exists and the pharmacists can communicate well with the patient about the pharmacotherapy and related subjects (Volume et al., 2001). Establishing a caring relationship with the patient is described as step one in the pharmaceutical care process (Anonymous, 1997). Therefore, patient's education can be a significant determinant in monitoring the progress of his/her condition and pharmaceutical care provided. Moreover, such a relationship involves not only the technical aspects of information provision and communication, but also emotional aspects and empathy.

5.3.5 Monitoring the Outcome

There are logical reasons to believe that the provision of pharmaceutical care can reduce the impact of drug-related problems on clinical, humanistic and economic outcomes of patients by improving the quality of the system and the quality of individual drug therapy.

In the current study, the researcher found Factor 5 with only one item; the item was asking on how well medical conditions are controlled and it was termed as monitoring the outcome. No any demographic characteristic was found to be significantly associated with monitoring the outcome. Pharmaceutical care is a practice for which the practitioner takes responsibility for a patient's drug therapy needs and is held accountable for this commitment (Anonymous, 1997; Cipolle, Strand and Morley, 1998). Since pharmaceutical care is an individualized care and aimed at improving the patients' outcomes, including quality of life (Helper and Strand 1990; Mikael, 1975), therefore, there is a need for pharmacists to monitor the outcome of the therapy provided by taking into account individuals perceptions.

5.4 Limitations

The current study has some limitations worth mentioning.

1. All recruited participants agreed to participate in the study with zero non response rate. These clients were possibly already well known to the pharmacist/health care provider at the community pharmacy and were perhaps already receiving more personalized services that coerced them to participate. However, the effects of this limitation on this study finding remains unknown.

2. The clients in this study were possibly already well known to the pharmacist/health care provider at the community pharmacy and were perhaps already receiving more personalized services that coerced them to participate. This could have introduced some bias to the sample study. However, the effects of this limitation on this study finding remains unknown.

3. The interviewers biases with probability of insisting for a favorable answer to the study. The influence of this type of bias could have influenced positive response to some of the items. Fourth, though the sample size was determined statistically, still remains the study was done in only one region in Tanzania, therefore in, future a large sample size and representative of the country would provide a better understanding of satisfaction to pharmaceutical care.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

Patient satisfaction can be reliably measured by surveys structured around the principles of pharmaceutical care to improve the quality of care provided, satisfaction and patients' treatment outcomes. The introduction of pharmaceutical care into routine community pharmacy operations improves patient satisfaction, especially when accompanied by routine assessment and formal consultations about their medical conditions. There is a need to improve patients' knowledge on medications, customer care, information sharing and education, monitoring the progress, and the outcome of pharmaceutical care. Also, implementations on strategies to improve the, affordability and availability of medications and pharmacists to take a more proactive and consultative role in patient health care will be helpful to improve patients' satisfaction and their general health. Future research should explore the implementation of pharmaceutical care and provide evaluation of effectiveness and impact on quality of satisfaction on pharmaceutical care delivery.

6.2. Recommendations

- Pharmacists offering this practice should assess their patients' health conditions considering their needs, as well as assessing the effectiveness and safety of the medications they are supplying.

- Pharmacists should help prevent and detect drug-related problems and intervene in all instances where the desired therapeutic outcome is not achieved.

- The PSQ is a reliable and valid tool to measure the quality of pharmaceutical care services in Tanzania as is used in other countries. Therefore, it should be used routinely in pharmaceutical care to determine the patient satisfaction and outcome of the care provided.

- To ensure that medicines are made available to the population, functioning pharmaceutical regulatory and supply systems are required to have adequate number of qualified pharmaceutical personnel and ensure the medicines to be at affordable cost.

- Pharmaceutical professional training institutions should equip the pharmacists, pharmaceutical technicians, and assistants' trainees with the knowledge and skills needed for delivering pharmaceutical care.

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ANNEXES

Annex I: Informed Concent (English Version)

STUDY PARTICIPANTS INFORMED CONSENT FORM ON EVALUATION OF PHARMACEUTICAL CARE DELIVERY AND SATISFACTION AMONG PATIENT ATTENDING THE COMMUNITY PHARMACIES IN DODOMA MUNICIPALITY-TANZANIA

INVESTIGATOR: Gwantwa Mwamwendesi
ADDRESS: MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
P.O BOX 65001,
DAR-ES SALAAM.

Identification number: _____

Introduction

Greetings! This consent form contains information about the research named above. In order to be sure that you are informed about being in this research, we are asking you to read or have read to you this consent form. You will also be asked to sign it or make a mark in front of the witness. You will be given a copy of this form. This consent form might contain some words that are unfamiliar to you. Please do not hesitate to ask so that explanation can be given to whatever you might not understand.

Reason for the research

You are being asked to take part in this study which intends to evaluate the pharmaceutical care delivery and satisfaction among patients attending the community pharmacy.

General information and your part in research

The research will involve answering questions depending on your chance, thus you will incur no cost and your participation is voluntary. You will face no penalties in case you disagree not to take part in this study.

Possible Risks

Since the study will be done using questionnaire and no experimental, this means no harm is expected because of joining the research study.

Possible Benefits

As the aim of study is to evaluate pharmaceutical care delivery and satisfaction among patients that might improve the current situation of giving instruction to patient of how to administer the medicines given.

Rights to participate or discontinue

You are free to decide if you want to be in this research after brief explanation on the aim and procedure of the research. You will be allowed to disagreed in taking part on the study or discontinue from the study any time as you wish. The discontinuation or refusal to participate will not affect your right at any point in time.

Confidentiality

All the information obtained from you regarding this study will be treated with high degree of confidentiality. No information will be provided to others without your consultation.

Compensation

No payment will be provided for anyone participating in this study.

Staying in the Research

When agree to participate in this research only the tools designed for this study will be used.

In case of problem/query contact

If case of any problem/question/query as a study participant, please contact Gwantwa Mwamwendesi phone no; 0717088892), or Prof. Reinalds S. Malele (Tel: 0715287955), who is the coordinators of this study, MUHAS P.O BOX 65001, Dar es Salaam.

Your rights as a Participant

This research has been reviewed and approved by the IRB of Muhimbili University of Health and Allied Sciences. An IRB is a committee that reviews research studies in order to help protect participants. If you have any questions about your rights as a research participant you may contact Prof. Mainen Moshi, Chairman of the College Research and Publication. P.O BOX 65001.Tel 2150302-6

Volunteer agreement

The above document describing the benefits, risks and procedures for the research titled EVALUATION OF PHARMACEUTICAL CARE DELIVERY AND SATISFACTION AMONG PATIENT ATENDING COMMUNINTY PHARMACIES IN DODOMA MUNICIPALITY has been read and explained to me.

I .....have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date: ..... Signature of volunteer.....

Annex II: Consent Form (Swahili Version)

FOMU YA KUKUBALI KUJIUNGA KWA HIARI KATIKA UTAFITI WA KUTATHMINI HUDUMA ZA UTOAJI WA DAWA NA URIDHISHWAJI WAKE KWA WAGONJWA WANAOTEMBELEA MADUKA YA DAWA KATIKA MANISPAA YA DODOMA

WA JINA LA MTAFITI: Gwantwa Mwamwendesi

ANWANI: Chuo Kikuu Cha Afya Na Sayansi Za Tiba Muhimbili,

S.L.P 65001,

Dar-Es Salaam**.**

Namba ya Utambuzi: _____

Utangulizi:

Salamu!

Fomu hii inajumuisha taarifa juu ya utafiti tajwa hapo juu. Ili kuthibitisha kukubali kwako kushiriki katika utafiti utasoma au kusomewa fomu hii ya kukubali na kisha utaisaini. Au utasaini kutumia kidole gumba mbele ya shahidi. Baadaye utapewa nakala ya fomu hii. Endapo hutaelewa usisite kuuliza kabla ya kusaini.

Sababu za kufanya utafiti

Utafiti huu una kusudi la kuangalia ni jinsi gani maelezo ya jinsi ya kutumia dawa mgonjwa anapewa na anaridhishwaje na hayo maelekezo ya utumiaji wa dawa.

Taarifa za jumla na nafasi ya ushiriki kwako

Utafiti huu ni wa hiari na utahusisha kujibu maswali kulingana na nafasi yako. Hatutegemei utaingia gharama zozote kwa ushiriki wako.

Athari tarajiwa

Kwa kuwa utafiti huu utahusisha kujibu maswali yaliyopo kwenye dodoso, hivyo hatutegemei madhara wala hatari zozote kwa ushiriki wako kwenye utafiti huu.

Faida tarajiwa

Kukubali kujiunga katika utafiti huu kutakusaidia kuongeza uelewa na pia utakuwa mmojawapo wa wale watakaofanikisha kugundua changamoto za jinsi ya kumuelekeza mgonjwa namna gani atumie dawa .

Haki ya kushiriki au kutokushiriki

Ushiriki wako katika utafiti huu ni wa hiari baada ya kupata maelezo kuhusu lengo na mlolongo wa utafiti. Unaweza kuamua kutoshiriki au kujitoa kwenye utafiti muda wowote ule na kwa sababu yoyote ile. Maamuzi yako ya kuamua kujitoa/ kutokushiriki yataheshimiwa na hayataathiri mahusuiano baina yako na mtafiti.

Usiri

Taarifa zote utakazotoa wakati wa utafiti zitatunzwa kwa siri na kutumika kwa lengo la utafiti tu na si vinginevyo.

Fidia

Ushiriki wako katika utafiti huu ni wa hiari na hivyo hakutakuwa na malipo yoyote kwa ajili ya kushiriki kwako.

Kubaki katika utafiti

Kama utakubali kushiriki katika utafiti huu, ni dodoso lililoainishwa pekee ndilo litakalotumika katika utafiti huu.

Kama una hoja/ tatizo lolote juu ya utafiti husika tafadhali wasiliana na

Gwantwa mwamwendesi(simu namba; 0717088892), au Prof Reinalds S.Malele (simu namba); 0715287955), Chuo Kikuu cha Afya Na Sayansi za Tiba Muhimbili,

Haki zako kama mshiriki

Utafiti huu umepitiwa na kuidhinishwa na jopo la Kamati ya Utafiti na Machapisho ya Chuo Kikuu cha Afya na Sayansi ya Tiba cha Muhimbili. Kama utakuwa na swali au maswali kuhusu haki zako kama mshiriki katika utafiti huu wasiliana na:

Profesa Mainen Moshi, Mwenyekiti wa Kamati ya Utafiti na Uchapishaji, Chuo Kikuu cha Afya na Sayansi ya Tiba, S.L.P 65001, Dar es salaam. Simu Na : 2150302-6.

Makubaliano ya hiari

Maelezo ya hapo juu, yanayoelezea faida, hasara na taratibu za utafiti wenye kichwa kisemacho**, KUTATHMINI HUDUMA ZA UTOAJI WA DAWA NA URIDHISHWAJI WAKE KWA WAGONJWA WANAOTEMBELEA MADUKA YA DAWA KATIKA MANISPAA YA DODOMA.**

nimezisoma au kusomewa na kuzielewa.

Mimi..... (andika jina lako) naridhia kushiriki katika utafiti na majibu yote niliyoyatoa kwa ufahamu wangu ni ya kweli.

Tarehe: .....Sahihi .....

Annex III: Questionnare (English version)

This survey is about your health and satisfaction of the pharmaceutical care you received from this particular Community Pharmacy. The information you give will be used to develop better pharmaceutical care and health services in general. DO NOT write your name on this survey. The answers you give will be kept private. Answer the questions based on what you really feel is the correct response to each of the mentioned items. There are no right or wrong answers, all depends on your response. Completing the survey is voluntary. Make sure to read every question. Circle item that match your answer.

Qestionnare code .....

Date of interview.....

SECTION A: PATIENT DEMOGRAPHIC CHARACTERISTICS

1. Place of residence.....
    1. Rural
    2. Urban
2. Age .....
3. Sex.....
    1. Male
    2. Female

4.Level of education.....

1. Primary
2. Secondary
3. College and above

5.Marital status.....

1. Married
2. single
3. separated
4. Widow/widower
5. others

6.Occupation/Means of subsistence ..... .

1.Farmer (own a shamba) 2. Petty trader

3. Public servant 4. Private business

5. Employed in a private enterprise 6. Others.....

7.Income per month.....

1. Below Tsh30,000 per moth
2. Tsh30,000-100,000 per month
3. Tsh100,000-300,000 per month
4. Above Ths 300,000 per moth

SECTION B ACCESSIBILITY OF MEDICINES IN THE COMMUNITY PHARMACY

8. What is/are the names of medicines prescribed to you?

   ……..

9. Availability of 14 tracer medicines in community pharmacies in Dodoma municipality

(FOR OFFICIAL USE)

No	Medicine name	Yes	No
1	Atemether/Lumefantrine (ALU)		
2	Glibenclamide		
3	Atenolol		
4	Captopril		
5	Salbutamol		
6	Amitriptyline		
7	Ciprofloxacin		
8	Co-trimoxazole		
9	Amoxicillin		
10	Ceftriaxone		
11	Diazepam		
12	Diclofenac		
13	Paracetamol		
14	Omeprazole		

10. What is the distance from your home to the community pharmacies

a.within 5km.

b.within (5-10)km

c.more than 10km.

11. .Patient price for medicines

a.Verry high

b.High

c.Moderate

d.cheap

SECTION C: Pharmaceutical care satisfaction Questionnaire (PSQ)

Tick the most correct response

S/no	Statement	strongly disagree (0)	Disagree (1)	Neutral (2)	Agree (3)	strongly agree (4)
1	Pleasant and courteous pharmacy staff					
2	Reasonable privacy for discussions					
3	Ask if I have any concerns about my medications					
4	Share decision-making responsibilities					
5	Ask about my existing medical conditions					
6	Ask how well medical conditions are controlled					
7	Ask me questions about my various medications					
8	Discuss different medical options available					
9	Explain how each medication is supposed to work					
10	Develop a written care plan					
11	Offer variety of information sources; print, video, brochures etc					
12	Work with doctor and me to ensure					

	best medications					
13	Explain what to do if side effects occurs					
14	Explain how to know if medications are working					
15	Phone ask between refills if medications are working					

Thank you very much for your participation, do you have any question for me?

Annex IV: Questionnare (Swahili version)

Utafiti huu ni kuhusu afya yako na uridhikaji wako wa maelekezo ya jinsi ya kutumia dawa yanavyo tolewa na watoa dawa wa maduka ya dawa mbalimbali hapa dodoma mjini. Taarifa utakazotoa zitatumika kuendeleza ubora wa maelekezo ya jinsi ya kutumia dawa na huduma za afya kwa ujumla. Usiandike JINA LAKO katika tafiti hii. Majibu yote utakayotoa yatakuwa ni siri. Jibu maswali haya kutokana na unavyoona ni sahii. Hakuna majibu ya ukweli na yasiyo ya ukweli. Kumaliza tafiti ni hiyari yako. Hakikisha unasoma maswali yoote. Zungushia jibu sahihi.

Nambari ya dododso.....

Tarehe ya mahojiano.....

SEHEMU A: TAARIFA ZA UTAMBULISHO ZA MGONJWA

1. Mahali unapoishi.....
   1.Pembeni ya mji
   2.Mjini
2. Umri.....(Andika miaka)
3. Jinsia.....
   1.Kiume
   2.Kike
4. Kiwango cha elimu.....
   1.Elimu ya msingi
   2.Sekondari
   3.Chuo au zaidi

5.Hali ya ndoa?

1. Nimeolewa /nimeoa
2. Anakaa na mwanamke/mwanamme
3. Sijaolewa /sijaoa
4. Tumeachana
5. Mjane
6. Mengineyo .....

6.Unafanya kazi gani/Mnategemea nini kimaisha? .....

1. Mkulima (anamiliki shamba) 2. Biashara ndogondogo
3. Biashara binafsi
4. Nimeajiriwa na serikali
5. Nimeajiriwa na shirika binafsi
6. Kazi nyingine.....

7. Kipato chako kwa mwezi.....

5. Chini ya Sh30,000 kwa mwezi
6. Sh30,000-100,000 kwa mwezi
7. Sh100,000-300,000 kwa mwezi
8. Juu ya Sh300,000 kwa mwezi

SEHEMU B:UPATIKANAJI WA DAWA KWENYE MADUKA YA DAWA

8.Majina(jina) ya dawa ulizo andikiwa na daktari?.....

9.Upatikanaji wa dawa 14 ambazo zinapima bei za dawa kwenye maduka ya dawa manispaa ya dodoma

(KWA MATUMIZI YA OFISI TU)

No	Jina la dawa	Ndiyo	Hapana
1	Atemether/Lumefantrine (ALU)		
2	Glibenclamide		
3	Atenolol		
4	Captopril		
5	Salbutamol		
6	Amitriptyline		
7	Ciprofloxacin		
8	Co-trimoxazole		
9	Amoxicillin		
10	Ceftriaxone		
11	Diazepam		
12	Diclofenac		
13	Paracetamol		
14	Omeprazole		

10.Kuna umbali gani kutoka nyumbani kwako mpaka kwenye duka la dawa

a. kilometa

b. kati ya kilometa 5-10

c. Zaidi ya kilometa 10

11.Bei za dawa kwa mgonjwa

1 Ni ghali sana

2 Ghali

3 Wastani

4 Rahisi

SEHEMU C: Dodoso la ulizishwaji wa huduma za maelekezo ya jinsi ya kutumia dawa kwa mgonjwa

Weka vema jibu sahihi

Na	Sentensi	Sikubaliani sana (0)	Sikubali (1)	Kawaida (2)	Nakubali (3)	Nakubaliana sana (4)
1	Mtoa dawa amekupokea vizuri,na kukujali					
2	Kuna sehemu maalumu ya usiri kwa ajili ya majadiliano					
3	Amekuuliza kama unashida yoyote kuhusu dawa zako					
4	Mumeshirikiana kuhusiana na maamuzi mbalimbali ya matibabu					
5	Umeulizwa kuhusu hali yako ya ugonjwa iliyopo					
6	Umeelekezwa ni kwa jinsi gani magonjwa yanaweza kudhibitiwa					
7	Umeulizwa kuhusu dawa mbalimbali					
8	Mumejadili kuhusu matibabu mbalimbali mbadala yaliyopo .					
9	Amekuelezea ni kwa jinsi gani kila dawa inatakiwa ifanye kazi					
10	Anaandaa muongozo wa utoaji wa dawa					
11	Amekupatia vyanzo mbalimbali vya taarifa za dawa,vipeperushi ,video					
12	Amejadili na dactari na mimi kuhakikisha matibabu bora					

13	Amekuelezea jinsi ya kufanya kama dawa italeta madhala yoyote					
14	Amekuelezea utajuaje kama dawa inafanya kazi					
15	Amekupigia simu kama kipindi cha kurudi kuchukua dawa nyingine ni lini,na kama dawa zinafanya kazi					
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Asante kwa ushiriki wako unaswali lolote la kuniuliza?