EFFECT OF COUNTERFEIT DRUGS ON DISTRIBUTION OF PHARMACEUTICAL PRODUCTS IN MOMBASA COUNTY, KENYA

BY:

NASRA ABEID SAID

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DECLARATION

This research project is my original work and has not been presented for the award of degree in any other university or institution for any other purpose.

Signature..... Date.....

NASRA ABEID SAID

REG NO: D61/77492/2012

This project has been submitted for examination with our approval as the University supervisors

Signature..... Date.....

DR. JOSEPH ARANGA

School of Business, University of Nairobi

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Special thanks go to my entire family for the moral and material support throughout the study period.

Secondly, I wish to express my profound gratitude and deep regard to my project supervisor, Dr. Aranga for his exemplary guidance throughout the duration of the project.

DEDICATION

I dedicate this work to my family for their love and material support through the entire period of study.

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LIST OF ABBREVIATIONS& ACRONYMS

OECD	Organization for Economic Co-operation and Development
PPB	Pharmacy and Poisons Board
SMEs	Small and Medium Enterprises
WHO	World Health Organization
PSI	Pharmaceutical Security Institute's
API	Active Pharmaceutical Ingredients
KMA	Kenya Medical Association
CIM	The Chartered Institute of Marketing
WTO	World Trade Organization
KEMSA	Kenya Medical Supplies Agency
KEBS	Kenya Bureau of Standards
ARVS	Antiretroviral Drugs
UNODC	United Nations Office on Drugs and Crime
CBP	Counterfeit Branded Products
BP	Branded Products
OTC	Over the Counter

ABSTRACT

Counterfeiting is unauthorised imitative creation of product without power from the proprietor's which are secured by licensed innovation rights to make benefits. Counterfeit medicines are a piece of the more extensive marvel of substandard pharmaceuticals medicines produced underneath set up principles of value and in this manner hazardous to patients' wellbeing and ineffectual for the treatment of maladies. The distinction is that counterfeits are intentionally and deceitfully mislabelled as for personality or source. The objectives of this study was to establish the influence of consumer demand on distribution of counterfeit drugs in the pharmaceutical industry in Mombasa County, to establish the effect of counterfeit drugs on pharmaceutical businesses in Mombasa County and to determine the role of pharmaceutical drugs regulatory body on distribution of counterfeit drugs.The target population of this study was all the pharmaceutical wholesalers and retailers in Mombasa who had renewed license for 2015 and have been in the business for more than one and half years. In Mombasa county 306 pharmacies and distributors had renewed their 2015 license and had been in business for more than one and a half years. A sample size consisted of 101 pharmacies. Data was collected using a semi structured questionnaire. The findings of the study revealed that, there was high influence of Consumer demand on distribution of Counterfeit drugs, the extent of the effects of Counterfeit on Pharmaceutical businesses was high at a mean score of 4.37 and the role of pharmaceutical drugs regulatory body and Challenges faced during distribution were; frequent change of prices and discounting structures due to inter currency fluctuations, return of damaged products, Corrupt officials, Lack of evidence based research, Product recalls and Illegal importation. The study recommended that, the pharmaceutical manufacturers, distributors and Anti-counterfeit body should deliberate on educating or creating awareness to the public on the effects of counterfeit drugs and ways of identifying the original brands, the pharmaceutical owners should employ registered pharmacist and order products from registered pharmaceutical distributors and suppliers, the Kenya anti-counterfeit regulatory body should put up strategies to work with pharmaceutical business, distributors and the public in reporting all cases of counterfeiting for necessary action and the pharmaceutical drugs regulatory body should constantly monitor all pharmaceutical premises to ensure none operates unregistered and no pharmacist operates without license/being registered.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The term "counterfeiting" is defined as the procedure of deceitfully assembling, modifying, or dispersing a product that is of lesser value than the genuine product (IACC, 2016). A counterfeit medicine is one which is intentionally and falsely mislabeled as for character and additionally source. Duplicating of medications can apply to both marked and non specific items. All things considered, counterfeit may consolidate things with the right fixings or with the wrong fixings, without element fixings, with mixed up measures of element fixings or with fake packaging (Sabin, 2009). In its minimum destructive shape, forging does not hurt the buyer and, apparently, forces a moderately minor cost on the trademark holder. At its worst, counterfeiting may be deadly to the consumer, particularly in the pharmaceutical context (Sandra, 2008). When Counterfeit drugs are distributed to patients that lack the active ingredients, or worse, containing ingredients that are toxic to the patients, those patients may die as a result.

The research was based on the following theories: Neoclassical theory of Consumer Demand which explains that when the prices increase, the willingness and ability of sellers to offer goods increase (Jevons, 2005), Theory of supply chain intermediation that explains that firm is created when the gains from intermediated exchange exceeds the gains from direct exchange between the supplier and the customer (Spulber,1996), Normative stakeholders' theory that explains that firms should build principles or "rules of the game" on how the company should operate with stakeholders (Donaldson & Preston ,1995), Normative Theory of Market-Failure that predicts that regulation will be instituted to improve economic efficiency and protect social values by correcting market imperfections (Keitany &Moronge, 2013) and Awareness Theory describes peoples' perception and cognitive reaction to a condition or event(Keitany &Moronge, 2013). The theories will help in an in depth elaboration of the objectives of the research.

In Kenya, an estimated 30% of drugs sold were fake or counterfeit, accounting for an annual loss of more than 10 billion shillings (Rajab, 2013). The proliferation of these

counterfeit medication and pharmaceuticals in Kenya caused many unnecessary deaths, disabilities and injuries to patients, and also greatly contributes to the high cost of public healthcare (Elly, 2013). Influx of Counterfeit drugs into Mombasa County has led to Loss of sales of genuine products that might be more expensive in relation to the counterfeit equivalent, Loss of Government revenue in form of tax evasion, Loss of Life due to substandard and non-effective drugs leading to lack of confidence in the entire healthcare system.

1.1.1 Concept of Counterfeiting

Counterfeiting is an unapproved imitative production of products or services without power from the proprietor's which are secured by protected innovation rights keeping in mind the end goal to make benefits. Fake drugs are items purposely and falsely created as well as mislabeled as for character and additionally source to make it give off an impression of being a certified item (PimTuylset al, 2007).Counterfeit medications are a piece of the more extensive wonder of substandard pharmaceuticals – meds produced beneath built up measures of value and in this manner risky to patients' wellbeing and inadequate for the treatment of infections. The distinction is that fakes are intentionally and falsely mislabeled as for personality or source. Forging happens both with marked and non specific items and fake prescriptions may incorporate items with the right fixings yet fake bundling, with the wrong fixings, without dynamic fixings or with deficient dynamic fixings (Annex 5, WHO Technical Report Series 937, 2006: http://whdlibdoc.who.int/trs/WHO_trs_937_eng.pdf#page =191). Counterfeiting additionally implies fabricating, creating or making of duplicates, in Kenya or somewhere else, infringing upon a creator's rights or related rights (Caroline, 2016). Fake merchandise can likewise be clarified as the products that are shaded utilizing similar hues secured merchandise in a way that the buyers will confound the products as they buy.

1.1.2 Concept of Distribution

Distribution is the process of moving a product from its manufacturing source to its customers, through a distribution channel, (Agbonifoh *et al*, 2007). Distribution channels are well organized arrangements that perform all the necessary tasks to assist

exchange transactions. The basic function of a distribution channel is to provide a link between production and consumption and to create time, place and possession utilities which constitute the added value of distribution. Intermediaries (wholesalers, retailers, agents, brokers) are needed because manufacturers lack the necessary financial and human resources to carry out direct marketing (Kotler, 2006).

1.1.3 Counterfeiting and Distribution

Counterfeiting can be a low-cost, high-return business, especially if regulations are weak. According to a report by UNIDO, (2010) page 95, the drug distribution system in Kenya can be classified into public (government), nongovernmental organizations (NGOs), and private channels. The private sector is served by distributors (distributing both imports and locally-manufactured goods) and the local manufacturers directly. There are many distributors and wholesalers registered by the Pharmacy and Poisons Board and some wholesalers also retail. The procurement of medicines in the private sector is not centralized. There are many distributors and wholesalers registered by the Pharmacy and Poisons Board and some of them are retailers as well. A large number of unregistered outlets, currently estimated between 3,000 and 4,000, also exist and these source their wares by various means, including registered wholesalers and other retailers. While the government procures drugs through KEMSA (KEMSA Act, 2013).

Counterfeit drugs enter the supply chain and distributed through several channels including trafficking (Richard R. Abood *et al* , 2014)and Internet pharmacies, (Erwin *et al* ,2014), which are often the source of counterfeit drugs, often falsely passing as authentic drugs, to enhance their consumer acceptance. Drug shortages, long and convoluted supply chain facilitate access for counterfeit. In addition, the wholesale market involving numerous firms is a convenient target for counterfeit drugs.

1.1.4 Pharmaceutical Industry in Kenya

The Pharmaceutical Industry is a very highly regulated, capital as well as labor intensive industry. The Kenyan Pharmaceutical Industry operates in a liberalized environment that is characterized by stiff competition of the price nature, political factors, and fight against counterfeit medicines, prohibitive and wanting regulation. All the Kenyan pharmaceutical businesses from the manufacturing stage to the supply

stage is regulated by the Pharmacy and Poisons Board (PPB) of Kenya as per the Cap 244 Act, inspection of premises and registration of qualified personnel and businesses, quality control and Pharmacovigilance among other duties.

Mombasa County is the smallest county in coast province and its Administration is segregated into six divisions, Mvita, Changamwe, JomvuKuu, Likoni, Kisauni and Nyali. These are the areas where the data is to be collected at distributor and retail pharmacies. The pharmaceutical distributors in Mombasa get most of their supplies from Nairobi and they distribute the products to the retailers. The pharmaceutical industry is a sector that is highly regulated by the Ministry of Health/ Pharmacy and Poisons Board, Pharmaceutical Society of Kenya, Kenya Medical Association, Kenya Medical Supplies Agency (KEMSA) and the Kenya Bureau of Standards (KEBS). The Pharmacy and Poisons Board is the Drug Regulatory Authority established under the Pharmacy and Poisons Act, Chapter 244 of the Laws of Kenya. The Board regulates the Practice of Pharmacy and the Manufacture and Trade in drugs and poisons. They are also in charge of issuing Licenses to qualified, Professionals, retailers and pharmaceutical distributors. Opiyo (2006) noted that the retail pharmacy is in direct contact with the patient and doctors therefore act as a link between both. Retail pharmacy is both a product and service oriented Industry they sell product to the patients and also give information to the clients they also provide information on general health. According to Stump & Chaushry (2011) the product focus is the actual selling of the on-shelf products at any given time. Services can be divided of two types: Information service such as drug information program, a pharmacy newsletter and more general health and disease information services.

1.2 Research Problem

Counterfeit goods can be available anywhere in the world and in all sectors of global economy (FDA,2014). The products are produced in and sold in underground economies or in unregulated economies where they escape normal tax tariff. Counterfeiting affect legitimate business due to lost sales, lower profits and loss of brand trust and value. The changing technology has greatly contributed to the rise in counterfeits and pirated drugs; this has resulted to influx of such medicines into the market. The counterfeiters are so fast in updating their products to be confused with the original brands.

Kenyan pharmacies and distributors continue to face several challenges from illegal trade in pharmaceuticals products. Counterfeit drugs are a global public health problem causing death, disability and injury affecting adults and children(Kibwage, 2008). Additionally, patients may lose confidence in health care professionals including their physician. The importation of illegal products is also increasing competition in the pharmaceutical industry hence a need to study its effect on pharmaceutical distribution and retailing. Mombasa County will be highly be affected by counterfeits drugs due to presence of the port which can easily clear the drugs and find their way into the market. Hence a need to clearly understand the effects that counterfeit medicines may impact the existing pharmaceutical distributors and retailers in Mombasa County. If their business is greatly affected what roles are played by the pharmacist in the pharmacies.

The factors influencing influx of counterfeit medicines in Kenya and their roles in combating counterfeit drug were studied by Muthiani in 2012, the study found out from a response rate of 80.3%, legislation, popularity of a brand, pricing strategy and various perceived risks had influence on the influx of counterfeit medicines. Global implication on counterfeit and substandard drugs in developing countries were reviewed by Nsimba, (2008), focusing on antiretroviral (ARVS) and malarial drugs,he found out that counterfeit drugs can adversely affect the patient's life, patients lose confidence in health care professionals, and the society is greatly affected not only in terms of health but also to public in terms of trade relations, economic implications and effect of global pandemics. The ways of combating counterfeit medications a case of California pharmacist were studied by Youmans & Law (2011), who found out that 59.3% of respondents believe counterfeit drugs pose a problem to the profession, but most had little or no experience with counterfeit medications. Studies on the effect of Counterfeit drugs on the pharmaceutical distribution are scarce. Hence there is need to carry on a study on the effects of counterfeit drugs in Kenya by answering the following question:

What are the effects of marketing counterfeit drugs on pharmaceutical distribution in Mombasa County, Kenya?

1.3 Research Objective

The general objective was to investigate the effect of counterfeit drugs on pharmaceutical distribution in Mombasa County, Kenya

1.3.1 Specific Objectives

i) To establish the influence of consumer demand on distribution of counterfeit drugs in the pharmaceutical industry in Mombasa County.
ii) To establish the effect of counterfeit drugs on pharmaceutical businesses in Mombasa County.
iii) To determine the challenges faced on distribution of pharmaceutical drugs.

1.4 Value of the Study

The Kenya anti-counterfeiting agencies can also use the studies to explain to the Pharmacies, the public and all medical personnel on the effects of counterfeit medicines to their future business. The intellectual property protections will also put strict measures to combat the counterfeiting and piracy of all products that are in the market hence making sure the business of the genuine products is not greatly affected.

The study will also be of value to the Ministry of health Pharmacy and Poison Board (PPB), when making policies on counterfeit since they can also include the roles of the pharmaceutical industry when amending the anti-counterfeit act.

The study will increase information on issues of counterfeiting therefore encouraging the pharmacists to play their roles in combating counterfeit drugs. The recommendations of this study will form part of the action plans that the pharmaceutical industries should adopt to remain competitive.

It will also contribute knowledge expansion to practitioners in Pharmacy and Medicine field. The study will be significant t0 academicians since it will form the foundation upon which other related and replicated studies can be based on.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The Chapter presents a literature on the theoretical that form the foundation of the study, the effects of counterfeit drugs, empirical studies section giving an overview of past studies carried out on the subject and finally closing with a summary and the research gap.

2.2 Theoretical foundation of the study

The research will be anchored on theories touching on marketing and distribution. On the marketing aspect, the theories that are applicable to the study will be; Neoclassical theory of Consumer Demand, Normative stakeholders' theory, Normative Theory of Market-Failure, and Awareness Theory. On the Distribution aspect, Theory of supply chain intermediation will be used to elaborate its role to the study.

2.2.1 Neoclassical Theory of Consumer Demand

According to Weber (2001), demand is the preparation and ability to purchase a range of quantities at a range of prices. Consumers purchase goods that satisfy wants and needs that generate utility. Those goods that generate more utility are more valuable to consumers and thus buyers are willing to pay a higher price (Bentham, 2005). Bentham used the word "utility" in reference to the satisfaction of wants and needs. He developed the notion that people are motivated by the desire to maximize utility. The ability of consumers to pick one unit of one type of differentiated commodity is important to determine the situations in which discrete change in prices leads to some consumers switching brand or mode, while others change the magnitude of their consumption. If each additional unit of a good is less satisfying, then a buyer is willing to pay less, as such the demand price declines. This inverse law of demand relation between demand price and quantity demanded is a direct implication of the law of diminishing marginal utility.

According to Jevons (2005), the rule of consumer equilibrium, consumers purchase goods such that the ratio of marginal utilities is equal to the ratio of their prices. This law is particularly important for insight into the market demand and the law of

demand (McFadden, 1977). When the prices increase, the willingness and ability of sellers to offer goods increase (Jevons, 2005).Jevons further explained that a small increase in the prices of a commodity purchased by an agent leads to some consumers switching from consumption of a commodity whose price was raised to a similar commodity (Mandler, 1999). This theory was consistent with this study in that as demand for pharmaceutical products increases, the counterfeiters bring more of their products into the market. This is true to the fact that the prices for original branded products are deemed to be high thus encouraging counterfeiting (Jevons, 2005).

2.2.2 Normative Stakeholders' Theory

Stakeholders are "Those groups who are vital to the survival and success of any corporation". It means customers, employees, suppliers, communities, shareholders and managers (Keitany &Moronge, 2013). Other definitions of stakeholders include: "Group of people who can affect or can be affected by the achievement of the organization's objectives" (Freeman, 1984) or "Those groups who are vital to the survival of the organization" (Freeman, 2004). According to Donaldson and Preston (1995), stakeholder interests has an intrinsic worth not directly linked to the company interests, VBM, (2016). One pillar of the normative stakeholder theory is that the company decisions affect stakeholders. In this kind of situation, when the action of an agent affects another agent, the company has to build ethical principles. Decisions made without any consideration of their impact are usually thought to be unethical. The firms should build principles or "rules of the game" on how the company should operate with stakeholders (Donaldson& Preston, 1995).

According to Clarkson (1995) stakeholders have a legitimate interest in the companies concerned and their interests have an intrinsic value. The relations between firms and its stakeholders can be valuable for the company as a reflection of its values and principles. Each company would define fundamental moral principles, and use these principles as a basis for decision making (Freeman &Evan, 1990). This theory was important to this study since the main players, their role and importance of each is identified as key to the success of the organization. The theory explains that the dealings between an agent and the stakeholders should be on ethical terms and all the

stakeholders interests be addressed. Since marketing of counterfeit drugs is an illegitimate activity, the stakeholders are not informed and are impacted negatively.

2.2.3 Normative Theory of Market-Failure

The normative theory of market failure predicts that regulation will be instituted to improve economic efficiency and protect social values by correcting market imperfections. Research into the markets is at the center of economic sociology (Fligstein,2001), (White, 1981), (Zelizer, 1979). Over the past three decades sociologists have investigated almost every type of market using a variety of theoretical premises. All this research however, starts from an assumption of the legality of the market exchange. Public institutions such as the United Nations Office on Drugs and Crime (UNODC) have tried to assess the size of illegal markets. It generally believed that the drug market is the largest illegal market. The UNODC estimated its worldwide revenue to be $322 billion in 2003 at the retail level.

The Theory supports that the market failure in the pharmaceutical Industry in Kenya is due to the lack of proper regulations. The drug distribution network in Kenya is in a state of chaos because it consists of open markets, patent medicine stores, community pharmacies, private and public hospitals, wholesalers/importers and pharmaceutical manufacturers.

Patent medicine stores are owned by the holders of patent and proprietary medicine vendors licenses. Ordinarily the patent medicines should be sold in their original packs. Over the Counter (OTC) drugs are the only drugs authorized to be sold by the vendors but they generally sell all types of drugs as determined by their financial capability. Considering the knowledge base of these vendors, whose minimum academic requirement to obtain a license is the first school-leaving certificate, they are not in a good position to differentiate between fake and genuine product.

2.2.4 Awareness Theory

Awareness theory describes peoples' perception and cognitive reaction to a condition or event. Awareness may be focused on an internal state, such as an instinctive feeling, or on external events such as sensory perception. Marton& Booth (1997) gave good examples of awareness; People have earlier experience of a certain situation and

are aware of that, people are aware of who they are, the background to the circumstances, what time of year it is and what day it is, and also what to do the rest of the day. Although there is awareness of everything at the same time, the intensity varies and generally what is referred to as awareness is the sum of an individual's experience. It is possible to do one thing while still being aware of many other things. Brand awareness is the capacity of consumers to recognize or remember a brand, and there is a linkage between the brand and the product class, but the link does not have to be strong. Brand awareness is a process where the brand is just known to a level where the consumers have put the brand on a higher rank, the brand has just become at the "top of his mind" (Aaker, 1991). The theory elaborates the loyalty of consumers to a brand they trust. Counterfeiters use this knowledge to penetrate the market and mislead consumers to purchase their products.

2.2.5 Theory of Supply Chain Intermediation

According to Spulber (1996), an intermediary is a fundamental building block of economic activity. He proposes the intermediation theory as an exchange between a group of suppliers and customers. A firm is created when the gains from intermediated exchange exceeds the gains from direct exchange between the supplier and the customer. He suggested that the very existence of firms is due to the need for intermediation. According to Whinston (1997) and Bollier (1996), disintermediation occur when an intermediary is removed from a transaction. The theory offers powerful explanation for why intermediaries exist, their advantage over direct exchange, and their roles in price setting, transaction costs, and competition (Spulber, 1996). The presence of intermediaries creates an opportunity for counterfeiters to establish themselves into the market. The longer the intermediary chain the greater the chance for counterfeit drugs to enter the market.

2.3 Counterfeiting and Distribution Efficiency

The regular use of substandard or counterfeit medicines can lead to therapeutic failure or drug resistance. In some cases, it can lead to death. Different counterfeit drugs have different characteristics and untoward effect, some contain ingredients that, if ingested or injected, can cause health problems (WHO, 2016). For example, the recently

counterfeited Procrit, an important drug for cancer and AIDS patients, contained nonsterile tap water, which can cause an infection in the bloodstream (FDA, 2009).

Other counterfeits substitute one drug for another. For example, insulin has been substituted for a more expensive injectable drug. And there was a report that counterfeiters emptied bottles of Zyprexa, a drug used for schizophrenia and acute bipolar mania, and replaced them with white tablets imprinted with the word "aspirin'' (FDA,2009).

Some fake drugs contain some active ingredient, but are sub potent. Others attempt to accurately copy the real drug, but still pose safety risks because they are not formulated in a way that achieves the right therapeutic levels in the patient's blood while some counterfeit drugs have no active ingredients. For example, a counterfeit version of Serostim, a growth hormone used in AIDS patients, was found to have no active ingredients hence leads to therapeutic failure and further deterioration of health (IPSEN, 2014). Over the past several years, counterfeiters have gained access to sophisticated technologies that enable them to very closely duplicate the packaging and labeling of legitimate prescription drugs. In fact, labeling for a product can be so exactly duplicated that it may require extremely close inspection by experts in order to identify subtle differences from the legitimate product.

Distribution involves a number of activities centered around a physical flow of goods and information, it includes both inbound and outbound side of supply chain management. Management of the inbound flow involves these elements, (Coyle et al, 2003): There are a number of critical functions performed by the channel distributor, as Ross (2004) describes: Product acquisition. This means acquiring products in a finished or semi-finished state from either a manufacturer or through another distributor that is higher up in the supply channel. These functions can be performed by independent channel intermediaries or by the distribution facilities of manufacturing companies. Product movement. This implies significant effort spent on product movement up or down the supply channel. Distributors can be characterized as selling products in bulk quantities solely for the purpose of resale or business use. Downstream businesses will then sell these products to other distributors or retailers

who will sell them directly to the end customer, or to manufacturers who will consume the material/components in their own production processes.

The three functions of distribution contain elements that facilitate it, these include, (Ross, 2004): Selling and promoting. This function is very important to manufacturers. One strategy involves the use of distribution channels to carry out the responsibilities of product deployment. Buying and building product assortments. This is an extremely important function for retailers. Most retailers prefer to deal with few suppliers providing a wide assortment of products that fit their merchandizing strategy rather than many with limited product lines. Bulk breaking. This is one of the fundamental functions of distribution. Manufacturers normally produce large quantities of a limited number of products. However, retailers normally require smaller quantities of multiple products. Value-added processing. The distributor can facilitate this process by performing sorting, labeling, blending, kitting, packaging, and light final assembly at one or more points within the supply channel and minimizes the risk inherent with carrying finished goods inventory transportation. The movement of goods from the manufacturer to the retailer is a critical function of distribution. Delivery encompasses those activities that are necessary to ensure that the right product is available to the customer at the right time and right place. Warehousing. Warehousing exists to provide access to sufficient stock in order to satisfy anticipated customer requirements, and to act as a buffer against supply and demand uncertainties. Marketing information. The distribution channel also can provide information regarding product, marketplace issues, and competitors' activities.

The presence of counterfeit in the market affects the pharmaceutical business. It affects the brand value and reputation of pharmacy. It also affects the innovation used by such a firms since they have to invest more on their research and development for them to remain competitive in the market. Further, over the past decade, the massive public health problem of counterfeit and Sub-standard drugs has become increasingly apparent, causing significant morbidity and mortality and reducing the effectiveness of health care in the developing world. Counterfeit and substandard anti-malarial drugs can cause death and contribute to the growing malaria drug resistance problem,

particularly in Southeast –Asia (Lon *et al*., 2006). The production of counterfeit or substandard anti-infective drugs is a widespread and under-recognized problem that continuously contributes to morbidity, mortality, and drug resistance (Newton *et al*., 2006). Counterfeit drugs particularly affect the most disadvantaged people and business in developing countries. Governments are directly affected since the tax revenue is reduced. It becomes costly to the government since they spend a lot of money in combating the counterfeit drugs. There is lack of integrity in the public institutions due to the corruption between counterfeiters and government.

2.4 Empirical Studies

The factors influencing the influx of counterfeit medicines in pharmaceutical SMEs Kenya were studied by Muthiani (2012). The objectives of the study was to investigate how legislation influences influx of counterfeit medicines, to determine the extent to which brand equity influences influx of counterfeits into pharmaceutical SMEs, medicines, to investigate whether the pricing strategy of medicines influences the influx of counterfeit medicines and also to establish the extent of perceived risks of counterfeit medicines. The study found out from a response rate of 80.3%, legislation, popularity of a brand, pricing strategy and various perceived risks had influence on the influx of counterfeit medicines. Further, the degree of popularity of a brand was found to influence the willingness to purchase counterfeit products. Consumers were found to buy counterfeit medicine over genuine ones if there is a price advantage.

Pharmaceutical counterfeiting in developing and developed countries were studied by Deisingh (2004).His objectives were to determine the effect of counterfeit medicines. He found out that in 1999 to December 2002 Antibiotics, Hormones and steroids drugs were mostly counterfeited due to the high prices. He also found that counterfeit drugs had effect on consumers, health care providers, drug manufactures and government. He described the methods used to detect the counterfeit medicines such as near-infrared spectroscopy, Raman spectroscopy, isotopic characterization, tensiongraphy, chromatographic and mass spectrometric approaches.

The ways of combating counterfeit medications a case of California pharmacist were studied by Youmans & Law (2011). The objective of the study was to examine Californians pharmacist knowledge of counterfeit medicines, impact of technology and barriers to pharmacist involvement and also to determine the roles of undertaken by the pharmacists. He found out that 59.3% of respondents believe counterfeit drugs pose a problem to the profession, but most had little to no experience with counterfeit medications. For potential sources, 44.5% believe patient use of Internet pharmacies. Pharmacist agreed lack of knowledge (46.8%) and resources (82.5%) were barriers to detecting the presence of counterfeits.

A study on problems associated with substandard and counterfeit drugs in developing countries was carried out by Nsimba, (2008): Review article on global implications of counterfeit drugs in the era of anti-retroviral (ARVs) drugs in a free market economy. The objective was to review the global implications associated with the use of substandard and or counterfeit drugs in developing and may be developed countries. He focused particularly on antiretroviral (ARVs), antimalarial and other drugs. He found out that counterfeit drugs can adversely affect the patient's life, patients lose confidence in health care professionals, and the society is greatly affected not only in terms of health but also to public in terms of trade relations, economic implications and effect of global pandemics.

Issues on combating counterfeit medicines in developed countries were studied by Lybecter, (2007). The objective of the study was to determine the magnitude of counterfeit medicines on the public and various strategies used by companies to combat the issue of counterfeit medicines. Since providing the consumers with the knowledge needed to distinguish genuine products from counterfeit versions may increase the suspicion of such customers and the counterfeiters may alter the packing or improve the appearance of fake version. He concluded that the anti-counterfeiting strategies that were used to increase the counterfeiters cost were most effective in developing countries than educating the consumers on dangers of counterfeit drugs.

Counterfeit and branded products: effects of counterfeit ownership were studied by Bian & Motinho (2011). The objective of the study was to determine whether the consumers are more favorable to branded products over counterfeit branded products,

also to determine whether the owners of counterfeit branded products alters consumers perceptions of counterfeit products and branded products and finally to determine whether counterfeit branded products ownership interact with perceptions of counterfeit branded products in determining counterfeit branded products intention. Significant perception differences concerning CBP were identified between CBP owners and non-owners. Several perception dimensions appeared to be significantly influential on CBP behavioral intention, with brand personality playing the dominant role. Evidence of an interaction effect of CBP ownership with consumers' perceptions of CBP on CBP purchase intention did not exist.

2.5 Summary

The proliferation of counterfeit pharmaceuticals is one of the most pressing issues facing the pharmaceutical industry and the country as a whole. Apart from company profits being a casualty, concerns are also on injuries and mortalities that are caused through the ingestion of counterfeit medicines. Globally, extensive studies have been done on different aspects of counterfeit drugs. Which are not limited to; pharmaceutical counterfeiting in developing and developed countries, ways of combating counterfeit medications, problems associated with substandard and counterfeit drugs in developing countries, combating counterfeit medicines in developed countries, counterfeit and branded products and factors influencing the influx of counterfeit medicines in pharmaceutical SMEs Kenya. No similar studies have been done on effects of marketing counterfeit drugs on pharmaceutical distribution in Mombasa County; therefore there is a need to undertake this study in order to address the study gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology of the research. It describes the research design, population of study, sampling techniques and sampling size, data collection and data analysis method.

3.2 Research Design

The study employed a cross sectional descriptive survey. According to Cooper & Schindler (2006) a study concerned with finding out who, what, which and how of a phenomenon is a descriptive study. On the other hand, Sekaran, (2006) argues that descriptive study is a study undertaken in order to ascertain and to be able to describe the characteristics of the variable of interest in the situation. It is designed to describe the characteristics or behaviors of a particular population in a systematic and accurate fashion population. The choice of the design for this study was to obtain an unbiased view of registered pharmacies, within Mombasa County, on the effects of counterfeit drugs on pharmaceutical distribution in the county.

3.3 Population of Study

In Kenya, there are about 3057 registered pharmacies according to the Pharmacy and Poison Board website out of which, 306 are in Mombasa County. The target population of this study therefore was all the pharmaceutical wholesalers and retailers in Mombasa who had renewed license for 2015 and have been in the business for more than one and half years. In Mombasa county 306 pharmacies and distributors had renewed their 2015 license and had been in business for more than one and a half years.

3.4 Sampling technique and sample Size

The sampling technique was systematic random technique. This is a probability technique which is applied in order to obtain a representative sample size. Under this technique 1/3 of the target population was picked randomly. Hence, the sample size consisted of 101 pharmacies selected from 306 registered pharmacies. For the sample two groups was selected consisting those registered under pharmacist and those under Pharmacy technologist.

3.5 Data Collection

Data was collected using a semi structured questionnaire. The questionnaires was distributed on a drop and pick basis. The researcher targeted Superintendents, Pharmacists or pharmaceutical technologist.

The questionnaire had two parts. Part A gathered the company profile of the business. Part B gathered information on effects of counterfeiting in the pharmaceutical industry.

3.6 Data Analysis

Since the research to be carried out was descriptive in nature, the data analysis method most appropriate was descriptive statistical analysis such as measures of central tendency and measures of dispersion. A measure of central tendency used was the Mean while the measures of dispersion used was Standard Deviation.

The first part which is the organizational bio data was analyzed using the frequency tables and percentages. The second part was analyzed using the frequency tables, mean and standard deviation. Prior to data analysis the questionnaires were checked for completeness, entries checked for consistency and coding was done using statistical package for social sciences (SPSS ver.20).

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the study findings, presentation and discussion of the findings of the study. The questionnaires were distributed to a sample of 101 registered pharmaceutical distributors and retailers. 100 fully filled questionnaires were returned resulting to a response rate of 99.0%.

4.2 Demographics and Firm Characteristics

This presents the firms profile; location, Number of years worked, form of business, Number of permanent employees, type of business, source of drugs and the kind of products distributed.

4.2.1 Location of Premise

The respondents were requested to indicate the location of their premises. The pertinent results are presented in table 4.1.

Table 4. 1: Respondents score on Location

	Frequency	Percent
Aghkan	1	1.0
Bamburi	5	5.0
Bodeni	2	2.0
Bombolulu	4	4.0
Buxton	2	2.0
Chaani	2	2.0
Changamwe	3	3.0
Kingórani	1	1.0
Kisauni	3	3.0
Likoni	1	1.0
Kongowea	2	2.0
Magogo	4	4.0
Majengo	3	3.0
Makupa	4	4.0
Migadini	3	3.0
Mikindani	4	4.0
Miritini	4	4.0
Moi Avenue	1	1.0
Mshomoroni	3	3.0

Mtopanga	1	1.0
Mwebe tayari	2	2.0
Mwembe tayari	1	1.0
Nyali	1	1.0
Sabasaba	3	3.0
Shanzu	2	2.0
Mombasa Town	1	1.0
Tudor	3	3.0
Missing/No response	34	34.0
Total	**100**	**100.0**

Source: Primary data (2016)

The results in table 4.1 indicate that, the location of the premises was across all regions within Mombasa County; Bamburi, Kisauni, Changamwe, Magogo, Chaani, Migadini, Miritini, Bombolulu, Mombasa town and Likoni. This showed that all regions were well covered giving a representative sample.

4.2.2 Number of years worked

The respondents were requested to indicate the number of years worked. The findings are shown in table 4.2.

Table 4. 2: Respondents score on Number of years worked

	Frequency	Percent
1-5	36	36.0
6-10	20	20.0
11-15	6	6.0
16 years and above	2	2.0
Missing/ No response	36	36.0
Total	100	100.0

Source: Primary data (2016)

According to table 4.2, 36.0% of the respondents had worked for 1-5 years, 20.0% between 6-10 years, 6.0% between 11-15 years and 2.0% for 16 years and above. The number of years worked implied good knowledge on pharmaceutical products and distribution.

4.2.3 Display of pharmacy and poisons board license

The respondents were requested to indicate whether they displayed pharmacy and poisons board license. The findings are shown in table 4.3.

Table 4. 3: Respondents score on display of pharmacy and poisons board license

	Frequency	Percent
Yes	100	100.0

Source: Primary data (2016)

The results in table 4.3 reveal that, the pharmaceutical premises had displayed pharmacy and poisons board license with 100.0% indicating yes. This implied that all targeted pharmaceutical distributors and retailers had pharmacy and poisons board license.

4.2.4 Years the pharmacy has been operational in Mombasa

The study also sought to find out the number of years the pharmacy had been operational in Mombasa. The findings are shown in table 4.4.

Table 4. 4: Respondents score on the years the pharmacy has been operational in Mombasa

	Frequency	Percent
Below 3 years	48	48.0
3-10 years	36	36.0
11-15 years	9	9.0
Over 15 years	7	7.0
Total	100	100.0

Source: Primary data (2016)

The results in table 4.4 showed that, 48.0% had been in Mombasa for a period of below 3 years, 36.0% between 3-10 years, 9.0% between 11-15 years and 7.0% for over 15 years. According to this information it was clear that, 52.0% of the pharmacies had existed in Mombasa for over 3 years and thus had great knowledge about counterfeit drugs.

4.2.5 Form of business

The respondents were requested to indicate the form of businesses they operated. The pertinent results are presented in table 4.5.

Table 4. 5: Respondents score on the form of business

	Frequency	Percent
Sole proprietorship	71	71.0
Partnership	21	21.0
Limited liability	4	4.0
Not for Profit organization	2	2.0
Others	2	2.0
Total	100	100.0

Source: Primary data (2016)

The findings in table 4.5 reveals that, 71.0% of the respondents were in sole proprietorship, 21.0% partnership, 4.0% limited liability, 2.0% not for profit organization while 2.0% chose others. This may imply that those who were in sole proprietorship and partnership may be greatly affected by counterfeits since decision making is based on the owner as compared to those pharmacies in institutions or hospitals.

4.2.6 Number of permanent employees

The study sought to find out the number of permanent employees in their premises. The results are presented in table 4.6.

Table 4. 6: Respondents score on the number of permanent employees

	Frequency	Percent
1-5	86	86.0
6-10	11	11.0
Over 10	3	3.0
Total	100	100.0

Source: Primary data (2016)

Table 4.6 indicates that, 86.0% of the pharmaceutical retail premises and distributors

had between 1-5 employees, 11.0% between 6-10 employees and 3.0% had over 10 employees. This shows that the respondents were largely permanent employees thus viewed to have more experience in pharmaceuticals retailing, products and distribution.

4.2.7 Type of business

The study also sought to find out the type of business they operated. The results are presented in table 4.7.

Table 4. 7: Respondents score on the Type of business

	Frequency	Percent
Wholesale	4	4.0
Retail	88	88.0
Wholesale and retail	8	8.0
Total	100	100.0

Source: Primary data (2016)

According to table 4.7, on the type of business the respondents were involved in, 88.0% were retail, 8.0% wholesale and retail and 4.0% wholesale. These findings shows that majority of the respondents were in retail business.

4.2.8 Source of drugs and other pharmaceutical products

The respondents were requested to indicate the Source of their drugs and other pharmaceutical products. The pertinent results are presented in table 4.8.

Table 4. 8: Respondents score on the Source of drugs and other pharmaceutical products

	Frequency	Percent
Adams	1	1.0
Aghkan hospital stores	1	1.0
Citadel Pharmacy	2	2.0
Makadara chemist	11	11.0
Medisel	2	2.0
Mombasa surgical	1	1.0
Ocean view Pharmaceuticals	2	2.0
Pharmaceutical distributors	13	13.0
Shifa pharmaceuticals	2	2.0
Supplier from main hospital	1	1.0
Suppliers within Mombasa	1	1.0
Trans wide limited	1	1.0
Wholesalers	17	17.0
Missing/ No response	45	45.0
Total	100	100.0

Source: Primary data (2016)

The results in table 4.8 shows that, the respondents got their drugs from various sources with the majority citing; Wholesalers (17.0%), Pharmaceutical distributors (13.0%), Makadara chemist (11.0%) and other premises operating on wholesale and retail or wholesale businesses.

4.2.9 Kind of products distributed

The study also sought to find out the Kind of products distributed by the respondents. The pertinent results are presented in table 4.9.

Table 4. 9: Respondents score on the Kind of products distributed

	Frequency	Percent
OTC	8	8.0
Both	92	92.0
Total	100	100.0

Source: Primary data (2016)

The results in table 4.9 indicates that, on the kinds of products distributed by the pharmaceutical retailing, wholesale and other distributors, 92.0% were both OTC and POM while 8.0% were OTC only. This showed that the distributors dealt with both kinds of pharmaceutical products.

4.3 Influence of Consumer demand on distribution of Counterfeit drugs

The study sought to find out the influence of consumer demand on distribution of Counterfeit drugs. Various questions on price and quality were used. This section was in view of answering the first objective of the study "To establish the influence of consumer demand on distribution of counterfeit drugs in the pharmaceutical industry in Mombasa County." The respondents were required to rate questions on a Likert scale with 1-Strongly disagree, 2-Disagree, 3-Not sure, 4-Agree and 5-Strongly agree. The results were tabulated using mean and standard deviation as indicated below.

Table 4. 10: Respondents score on the influence of Consumer demand on distribution of Counterfeit drugs

	N	Mean	Std. Deviation
The price of a product is good indicator of its quality	100	3.40	1.189
You always have to pay a bit more for the best	100	3.65	1.201
Generally speaking, the higher the price of a product, the higher the quality	100	3.32	1.188
I compare prices for the best value for money	100	3.53	1.210
I like to be sure that I get my money worth	100	4.11	.875
I try to maximize the quality for the money spent	100	3.86	1.025
I like to be sure the product is good before buying it	100	4.05	1.058
I don't like to feel uncertain when i buy something	100	4.03	1.068
I would rather be safe than sorry	100	4.40	.725
Valid N (listwise)	100		

Source: Primary data (2016)

The findings in table 4.10 shows that, respondents would rather be safe than sorry

with mean score of 4.4, they would like to be sure that they get their money worth (4.11), they like to be sure the product is good before buying it (4.05), they don't like to feel uncertain when they buy something (4.03) and they try to maximize the quality for the money spent (3.86). You always have to pay a bit more for the best had a mean score of 3.65, I compare prices for the best value for money scored 3.53, the price of a product is good indicator of its quality (3.4) and Generally speaking and the higher the price of a product, the higher the quality had a mean score of 3.32. These results shows that due to consumers opting to purchase cheap counterfeit drugs their increased distribution in the market poses great challenges to distributor in pricing their products and identifying the true brand of pharmaceutical products.

4.4 Effects of Counterfeit drugs on Pharmaceutical Businesses

This section presents whether the respondents were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry, whether counterfeiting affect business, how it affects and the extent in which it affects businesses.

4.4.1 Awareness on Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry

The respondents were requested to indicate whether they were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry. The results are presented in table 4.11.

Table 4. 11: Respondents score on whether they were aware of Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry

	Frequency	Percent
Yes	96	96.0
No	4	4.0
Total	100	100.0

Source: Primary data (2016)

The results in table 4.11, on whether respondents were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry reveals that, 96.0% cited yes and 4.0% indicated no. This means that the respondents were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry.

4.4.2 Does counterfeiting affect your business?

The study sought to find out whether counterfeiting affect business. The pertinent results are presented in table 4.12.

Table 4. 12: Respondents score on whether counterfeiting affect business

	Frequency	Percent
Yes	96	96.0
No	4	4.0
Total	100	100.0

Source: Primary data (2016)

The findings in table 4.12 shows that, 96.0% of the respondents indicated yes counterfeiting affect business and 4.0% no. This clearly shows that counterfeiting affects pharmaceutical businesses.

4.4.3 Suggested effects of Counterfeit drugs on Pharmaceutical Businesses

The respondents were requested to indicate ways in which counterfeiting affect their businesses. The summary of the responses are in table 4.13.

Table 4.13: Respondents suggestions on the effects of Counterfeit drugs on Pharmaceutical Businesses

	Frequency	Percent
Low counterfeit prices affects price of genuine products	16	40.0
Tarnishes company/premise image	8	20.0
Creates mistrust between pharmacist-client/Customer complaining about ineffective drugs	14	35.0
Loss of customers due to dissatisfaction with	12	30.0

drugs/products		
Customers opting to buy cheap counterfeit drugs	10	25.0

Source: Primary data (2016)

Table 4.13 shows that, the biggest effect as indicated by the respondents was that low counterfeit prices affects prices of genuine products (40.0%), mistrust between pharmacist-client or Customer complaining about ineffective drugs (35.0%), Loss of customers due to dissatisfaction with drugs/products (30.0%), Customers opting to buy cheap counterfeit drugs (25.0%) and Tarnishing of company/premise image (20.0%).

4.4.4 Extent of agreement of the effects of Counterfeit on Pharmaceutical businesses

The study also sought to find out the extent of agreement on the effects of Counterfeit on Pharmaceutical businesses. The pertinent results are presented in table 4.14.

Table 4. 14: Respondents score on the extent of agreement of the effects of Counterfeit on Pharmaceutical businesses

	N	Mean	Std. Deviation
Selling counterfeits affects sales	100	4.40	.725
Buying counterfeit cause loss of goodwill of the brand	100	4.52	.703
Counterfeits affects investors investment	100	4.39	.709
Counterfeits affects innovation	100	3.94	1.099
Counterfeits lead to loss of tax to government	100	4.55	.672
Selling counterfeits affects image of the pharmacy	100	4.43	.769
Valid N (listwise)	100		

Source: Primary data (2016)

The results in table 4.14 shows that, Counterfeits lead to loss of tax to government with the highest mean score of 4.55, Buying counterfeit cause loss of goodwill of the brand 4.52, Selling counterfeits affects image of the pharmacy 4.43, Selling counterfeits affects sales 4.40, Counterfeits affects investors investment 4.39 and

Counterfeits affects innovation had mean of 3.94. Generally, the extent of agreement of the effects of Counterfeit on Pharmaceutical businesses was high at a mean score of 4.37.

4.5 Challenges faced during distribution of pharmaceutical drugs

The respondents were requested to score the role of pharmaceutical drugs regulatory body and Challenges faced during distribution. The pertinent results are presented in table 4.15.

Table 4. 15: Respondents score on challenges faced during distribution of pharmaceutical drugs

	N	Mean	Std. Deviation
Illegal importation	100	3.47	1.201
Corrupt officials	100	3.86	1.110
Lack of evidence based research	100	3.78	1.021
Product recalls	100	3.77	.993
Return of damaged products	100	3.87	1.079
Frequent change of prices and discounting structures due to inter currency fluctuations	100	3.87	1.089
Valid N (listwise)	100		

Source: Primary data (2016)

The findings in table 4.15 reveals that, frequent change of prices and discounting structures due to inter currency fluctuations was rated high at mean score of 3.87, return of damaged products 3.87, Corrupt officials 3.86, Lack of evidence based research 3.78, Product recalls 3.77 and Illegal importation 3.47. Generally, the level of agreement on the role of pharmaceutical drugs regulatory body and Challenges faced during distribution was at 3.77.

4.6 Measures taken to deal with challenges faced during distribution of pharmaceutical drugs

The study sought to find out the measures taken to deal with the challenges faced during distribution of pharmaceutical drugs. The summary of the results are as shown in table 4.16.

Table 4. 16: Respondents suggestions on challenges faced by firms during distribution and the measures taken to deal with these challenges

Challenge	**Measures taken to address**
Price fluctuation and low prices of counterfeit drugs	Adjust prices to compete with cheap counterfeit drugs
Lack of proper storage	Ensure proper storage Order those products with available storage conditions
Short expiry of drugs	Monitor expiry date of drugs Purchase only quick moving products with short expiry Purchase products with long expiry period
Unregistered premises and distributors	Employ registered pharmacist
Lack of awareness on customers about counterfeit drugs	Educate customers on counterfeit drugs
Breakages in case of glass bottles during transportation	Ensure proper packaging and good transport modes
Delays of ordered pharmaceutical products	Ordering in advance Ordering in bulk
Customer complaints about ineffectiveness of drugs Pharmacist-Client Mistrust	Explaining to customers about the effects of counterfeit drugs
Some drugs being out of stock/market	Re-stock essential drugs/products

Source: Primary data (2016)

4.7 Discussion

The respondents indicated that there was high influence of Consumer demand on distribution of Counterfeit drugs which is in line with the theory that, when the prices increase, the willingness and ability of sellers to offer goods increase (Jevons, 2005).Jevons further explained that a small increase in the prices of a commodity purchased by an agent leads to some consumers switching from consumption of a

commodity whose price was raised to a similar commodity (Mandler, 1999). This theory was consistent with this study in that as demand for pharmaceutical products increases, the counterfeiters bring more of their products into the market. This is true to the fact that the prices for original branded products are deemed to be high thus encouraging counterfeiting (Jevons, 2005).

Respondents expressed their keenness on their safety and that of customers than being sorry due to effects of counterfeit drugs, they like to be sure that they get money worth, the product is good before buying it and they don't like to feel uncertain when they buy something.

Almost all the respondents were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry and highly agreed that counterfeiting affect business. The suggested effect of counterfeiting were; Low counterfeit prices affects price of genuine products, Creating mistrust between pharmacist-client/Customer complaining about ineffective drugs, Loss of customers due to dissatisfaction with drugs/products, Customers opting to buy cheap counterfeit drugs and Tarnishing company/premise image.

The challenges faced during distribution of pharmaceutical drugs were expressed as frequent change of prices and discounting structures due to inter currency fluctuations, return of damaged products, Corrupt officials, Lack of evidence based research , Product recalls and Illegal importation . This is supported by the theory that Kenyan pharmacies and distributors continue to face several challenges from illegal trade in pharmaceuticals products. These counterfeit drugs are a global public health problem causing death, disability and injury affecting adults and children (Kibwage, 2008).

The respondents suggested they take the following measures to address the challenges of counterfeiting; Monitoring expiry date of drugs, employing registered pharmacist, educating customers on counterfeit drugs and explaining to customers about the effects of counterfeit drugs and ensuring proper packaging and good transport modes.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMEDATIONS

5.1 Introduction

This chapter covers the summary of research findings, conclusions and the recommendations.

5.2 Summary of the findings

This chapter presents the summary of findings, the conclusion and the recommendations to the pharmaceutical retailers, organization, distributors and the policy makers.

All the regions within Mombasa County were well covered giving a representative sample, 100.0% of the pharmacies and distributors premises had display of pharmacy and poisons board license, 52.0% of the pharmacies had existed in Mombasa for over 3 years, 71.0% of the businesses were sole proprietorship, 86.0% of the pharmaceutical retail premises and distributors had between 1-5 employees while 88.0% of the respondents were operating on retail businesses. The major suppliers of drugs were; Wholesalers (17.0%) and Pharmaceutical distributors (13.0%). 92.0% of the kinds of products distributed by the pharmaceutical retailing, wholesale and other distributors were both OTC and POM.

The level of agreement on the influence of Consumer demand on distribution of Counterfeit drugs were high on, the respondents' would rather be safe than sorry with mean score of (4.4), respondents would like to be sure that they get their money worth (4.11), respondents like to be sure the product is good before buying it (4.05) and respondents don't like to feel uncertain when they buy something (4.03).

96.0% of the respondents were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry with 96.0% of the respondents agreed counterfeiting affect business

The extent of agreement of the effects of Counterfeit on Pharmaceutical businesses was high at a mean score of 4.37. The suggested effect of counterfeiting were; Low counterfeit prices affects price of genuine products (40.0%), Creates mistrust between pharmacist-client/Customer complaining about ineffective drugs (35.0%), Loss of customers due to dissatisfaction with drugs/products (30.0%), Customers opting to buy cheap counterfeit drugs (25.0%) and Tarnishes company/premise image (20.0%).

The challenges faced during distribution of pharmaceutical drugs were, frequent change of prices and discounting structures due to inter currency fluctuations was rated high at mean score of 3.87, return of damaged products 3.87, Corrupt officials 3.86, Lack of evidence based research 3.78, Product recalls 3.77 and Illegal importation 3.47.

5.3 Conclusions

The major suppliers of drugs were; Wholesalers and Pharmaceutical distributors distributing both OTC and POM kinds of pharmaceutical products.

The level of agreement on the influence of Consumer demand on distribution of Counterfeit drugs were high with respondents citing they would rather be safe than sorry, they like to be sure that they get money worth, they like to be sure the product is good before buying it and they don't like to feel uncertain when they buy something. Almost all the respondents were aware of the Kenya's Anti-counterfeit Act and what it portents for the pharmaceutical industry and highly agreed that

counterfeiting affect business. The suggested effect of counterfeiting were; Low counterfeit prices affects price of genuine products, Creating mistrust between pharmacist-client/Customer complaining about ineffective drugs, Loss of customers due to dissatisfaction with drugs/products, Customers opting to buy cheap counterfeit drugs and Tarnishing company/premise image.

The challenges faced during distribution of pharmaceutical drugs were, frequent change of prices and discounting structures due to inter currency fluctuations, return of damaged products, Corrupt officials, Lack of evidence based research , Product recalls and Illegal importation . The respondents took the following measures to address these challenges; Monitor expiry date of drugs, Employ registered pharmacist, educate customers on counterfeit drugs and explaining to customers about the effects of counterfeit drugs and ensure proper packaging and good transport modes.

5.4 Limitation of the Study

There being no previously collected statistical data by the Pharmaceutical regulatory body on the effect of counterfeit drugs on distribution of Pharmaceutical products in Mombasa county, the research is based on statistical data collected with no benchmark data to compare and validate its accuracy.

5.5 Suggestion for further Research

The Government of Kenya should give a greater consideration on the effects of counterfeit drugs on distribution of Pharmaceutical products, not only in Mombasa county but throughout the country, as this has proven to be a menace that is affecting the entire country and putting its citizens at risk. This requires the Government to initiate an in depth study on the same and publicize its findings to create better awareness on the effect of Counterfeit drugs on distribution of Pharmaceutical products.

5.6 Recommendations

The study recommended the following to help in countering counterfeiting and its effects in pharmaceutical retailers, distributors and the anti-counterfeit regulatory body.

The pharmaceutical manufacturers, distributors and Anti-counterfeit body should deliberate on educating or creating awareness to the public on the effects of counterfeit drugs and ways of identifying the original brands.

The pharmaceutical owners should employ registered pharmacist and order products from registered pharmaceutical distributors and suppliers.

The Kenya anti-counterfeit regulatory body should put up strategies to work with pharmaceutical business, distributors and the public in reporting all cases of counterfeiting for necessary action

The pharmacists should advice the public on the effects of counterfeit products.

The pharmaceutical drugs regulatory body should constantly monitor all pharmaceutical premises to ensure none operates unregistered and no pharmacist operates without license/being registered.

REFERENCES

Aaker D.A. (1991). *Managing brand equity: capitalizing on the value of a brand name.* New York: The Free Press.

Bentham, D. (2005) .*Pharmaceutical Management*; 8th ed. Edinburgh: Prentice Hall.

Bian .X., Moutinho . L., (2011) "*Counterfeits and branded products: effects of Counterfeit ownership"*. Journal of Product & Brand Management, Vol. 20 Iss: 5, pp.379 – 393. Retrieved from http://www.emeraldinsight.com/

Bullier, P. (1996), .*Response rates for mail surveys of non-profit organizations: a review and empirical test.*

Cooper, D. R. & Schindler, P.S. (2006). *Business Research Methods* (9th Edn). New York: McGraw Hill.

Coyle, John J., Edward J. Bardi, and C. John Langley, Jr., (2003) *The Management of Business Logistics: A Supply Chain Perspective.* 7th ed. Mason, OH: South-Western/Thomson Learning.

Donaldson and Preston, I. (1995).*Compliance culture. A conceptual framework. Journal of management and organization*.

Erwin A. Blackstone, Joseph P. Fuhr, Jr, and Steve P,(2014). *The Health and Economic Effects of Counterfeit Drugs.MA:* National Center for Biotechnology Information. Retrieved fromhttp://www.ncbi.nlm.nih.gov/

Evans and Freeman (1990). *The Public Pharmaceutical and Disposal Regulations*. Nairobi: Government of Kenya. Freeman,1984.

Fligstein, N. (2001). *The Architecture of Markets: An Economic Sociology of Twenty-First Century Capitalist Societies.* Princeton, NJ: Princeton University Press, Marton and Booth.

Food and Drug Administration,(2009). *Counterfeit drugs*. MD. Retrieved from http://www.fda.gov/NewsEvents/Testimony/ucm112670.htm

Food and Drug Administration,(2014). *Counterfeit drugs: Fighting illegal supply*

chains . MD: FDA. Retrieved from http://www.fda.gov

Freeman. T (1984) "An Evaluation of the Impact of the Pharmaceutical Regulations.

Freeman (2004) Governance Survey. Nairobi: Clarkson (1995).

Intellectual Property Policy, Law and Administration in Africa: Exploring Caroline B.Ncube, 2016.

IPSEN,(2014). *Le patient estdansnotre and.* Nanterre Retrieved from https://www.ipsen.com

Government of Kenya, (2013). *KEMSA Act. R*etrieved from http://www.kemsa.co.ke/

Kotler, P., 2005. According to Kotler: The world's foremost authority on marketing answers

Keitany, K. K. &Moronge, M. (2013). *Influence of supply chain management practices in combating counterfeits in Kenya: Case of pharmaceutical companies in Nairobi County*. International Journal of Social Sciences and Entrepreneurship, 1 (5), 867-881.

Kibwage I. O. (2008). *Counterfeiting of Drugs and the Necessity of Quality Control Systems in Developing Countries*. Interdisciplinary Courses on Development and Cultures, Katholieke University Leuven1-12.

Lon C.T.Tsuyuoka R. Phanouvong S. NivannaD,Socheat C. Sokhan C. Blum N. Christophel M.E. and Smine A. (2006). *Counterfeit and substandard antimalarial drugs in Cambodia*. Oxford Journals. 100(11), 1019-1024

Mandler, R. (1999). *An inventory of theory in Pharmaceutical research.* 21(3), 404-489.

McFadden, J. (1977). *Purchasing practice in Dutch municipalities.* International Journal of Purchasing and Materials Management, 34(2), 31-36.

Newton, P. Proux S. Green, M. Smithuis, F. Rozendaal, J. Prakongpan, S.

Chotivanich. K.,MayxayM. ,Looareesuwan S. ,Farrar, J. Nosten, F. & White N. J. (2001). *Fake artesunate in southeast Asia"*.Lancet. 357(9272), 1948- 50.

Nsimba. S.E. (2008). *Problems associated with substandard drugs in developing countries: A review article on global implications of counterfeit drugs in the era of antiretroviral drugs in free market economy.* Muhimbili East African Journal of public heath 5 (3)205-211.

Opiyo J.K. (2006), *Responses of pharmaceutical firms to the challenges of illegal limports.* Nairobi: Nairobi University. MBA Thesis, Unpublished. Organisation for Economic Co-operation and Development [OECD], (2007). *The economic impact of counterfeiting and piracy*.

PPB (2010). *The effectiveness of the Pharmaceutical Regulations in Kenya.* Retrieved from http:/www.oecd.org, on 18th Dec 2010.

Rajab Ramah, (2013). Kenya: Counterfeit Drugs Pose Public Health Threat in Kenya. All Africa. Retrieved from http://allafrica.com/

Ross, David Frederick (2004). *Distribution Planning and Control: Managing in the Era of Supply Chain Management.* 2nd ed. Boston: Kluwer Academic Publishers.

Sabin Kopp,(2009). WHO survey on terminology on "counterfeit" medicines or equivalent, United Nations Industrial Development Organization, (2010).*Pharmaceutical sector profile Kenya*. Vienna: UNIDO. Retrieved from www.unido.org

Quality Assurance and Safety: Medicines Essential Medicines and Pharmaceutical Policies World Health Organization. Retrieved from www.who.int

Sandra L. R., (2008).Pharmaceutical Counterfeiting and the Puzzle of Remedies. Thomas Jefferson School of Law.CA. Retrieved from www.papers.ssrn.com

Sekaran, U. (2006) .*Research Methods for Business A Skill-Building Approach*, 4th edition, John Wiley & Sons (Asia), Singapore.

Spulber. (1996) Law of Pharmaceutical and Supply; 3rd ed. Edinburgh: Prentice Hall.

Value Based Management (2016). Retrieved from http://www.valuebasedmanagement.net/methods_intrinsic_stakeholder_commitment.html

Weber.M. (2001). *Development partners and governance of Counterfeit Products on the performance of Pharmaceutical Companies*.,37(4), 829-868. Bentham, 2005

Whinston.(1997). *Pharmaceutical issues in Malaysia*. International Journal of Public Sector Management, 24(6), 567- 593.

World Health Organization,(2006). *Counterfeit medicines.*World Health Organization. Retrieved from http://www.who.int

World Health Organization (2007). *Counterfeit Drugs. Guidelines for the development of Measures to Combat the Counterfeit Drugs*. Geneva: WHO; 2007 WHO, (2016).Substandard, spurious, falsely labelled, falsified and counterfeit (SSFFC) medical products .Retrieved from http://www.who.int

World Trade Organisation, (2012).*TRIPS*. Retrieved from https://www.wto.org

Youmans L.S. & Elaine L., (2011).*Combating counterfeit medications: The California Pharmacist Perspective*. Journal of pharmacy practice,.24 (1)114-121.

Zakiuddin H.G., (2012).*Innovation as strategy used by the pharmaceutical wholesalers and retailers in Kenya,* Unpublished Journal University of Nairobi .

APPENDIX 1: QUESTIONNAIRE

Effect of Counterfeits on Pharmaceutical Distribution in Mombasa County *Tick Where Applicable √*							
PART A: Demographic and firm characteristics+*							
No	**Questions**						**code**
1	**Location of your pharmacy……**						
2	**Number of years you have worked……**						
3	Display of Pharmacy and Poisons Board License Yes ☐ No ☐						
4	How many years has your Pharmacy been operational in Mombasa? 2-3 years 3-10 years 11-15 years Over 16 years						
5	Form of Business Sole Proprietorship Partnership Limited liability Others _____						
6	Number of Permanent employees 2-5 6-10 10-14 over 16						
7	Type of business Wholesale Retail Wholesale and retail						
8	Where does your drugs come from?_____						
9	What kind of products do you distribute? OTC POM/ Both						
Influence of consumer demand on distribution of counterfeit drugs **Instruction: Please indicate the degree of your agreement or disagreement with each statement**							
		1 Strongly Disagree	2 Disagree	3 Not sure	4 Agree	5 Strongly Agree	
10	The price of a product is a good indicator of its quality						
11	You always have to pay a bit more for the best						
12	Generally speaking, the higher the price of a product, the						

	higher the quality						
13	I compare prices for the best value for money						
14	I like to be sure that I get my money worth						
15	I try to maximize the quality for the money spent						
16	I like to be sure the product is good before buying it						
17	I don't like to feel uncertain when I buy something						
18	I would rather be safe than sorry						

PART B: Effects of Counterfeit on Pharmaceutical Business

19	Are you aware of the Kenya's Anti-counterfeit Act and what it portends for the pharmaceutical industry in Kenya? Yes ☐ No ☐	
20	Does counterfeiting affect your business in any way? Yes ☐ No ☐	
21	If yes how?_____	

Please indicate the degree of your agreement or disagreement with each statement by marking (x) in the box provided below:

No.	**Attributes**	**1.Strongly Disagree**	**2.Slightly Disagree**	**3.Not Sure**	**4.Slightly agree**	**5.Strongly Agree**	
22a	Selling counterfeits affects sales						
22b	Buying counterfeit cause loss of goodwill of the brand						
22c	Counterfeits affects investors investment						
22d	Counterfeits affects innovation						

22e	Counterfeits lead to loss of tax to government						
22f	Selling counterfeits affects image of the pharmacy						
25. Challenges faced during distribution of Pharmaceutical drugs							
25a	Illegal importation						
25b	Corrupt officials						
25c	Lack of evidence based research						
26a	Product recalls						
26b	Return of damaged products						
26c	Frequent change of prices and discounting structures due to inter currency fluctuations						
27	Name some if the other challenges your firm faces during distribution _____ _____ _____						
28.	How does your firm deal with these challenges _____ _____ _____						

THANK YOU FOR PARTICIPATING IN THE STUDY

APPENDIX 2: LIST OF LICENSED PHARMACIES IN MOMBASA COUNTY

Premise Building	Premise Town	Cadre
	MOMBASA	PHARMACIST

	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
COAST BUS BLDG	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
BOMU HOSPITAL	MOMBASA	PHARMACIST
FAIRDEAL SHOPPING CENTER	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
NATIONAL OIL	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
SUMMERLINK	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
KULSUM MANZIL	MOMBASA	PHARMACIST
ELECTRICITY HOUSE	MOMBASA	PHARMACIST
THE OFFICE	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
MAKADARA BLD	MOMBASA	PHARMACIST
KINANGO HOUSE	MOMBASA	PHARMACIST
MAKADARA-BAMBURI	BAMBURI	PHARMACIST
	MOMBASA	PHARMACIST
NOORANI BLD	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
BUDGET TOWN	MOMBASA	PHARMACIST
PANDYA MEMORIAL HOSPITAL	MOMBASA	PHARMACIST
LINKS PLAZA	MOMBASA	PHARMACIST
EXPRESS BUILDING	MOMBASA	PHARMACIST
EAST BLD	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST

PAN AFRICA	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
BIASHARA BANK BUILDING	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
THE MOMBASA HOSPITAL	MOMBASA	PHARMACIST
	MOMBASA	PHARMACIST
	MOMBASA	PHARMTECH
MNARANI CENTRE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
ANNA HOUSE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
AKAMBA HANDCRAFTS	MOMBASA	PHARMTECH
NEXT TO HONGERA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MUTISYA MWEMBETU HSE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
KENYA RED CROSS BUIDLING	MOMBASA	PHARMTECH
S&L PLAZA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
ISOLATED	MOMBASA	PHARMTECH
OPP. D.C\'S OFFICE	MOMBASA	PHARMTECH
DOCTOR'S PLAZA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
AMWAI	MOMBASA	PHARMTECH
MPC	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	CHANGAMWE	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MLANGO SABA	MOMBASA	PHARMTECH

SAID	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
LAPETO BUILDING	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
JOMO	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
ALEIKUM BUILDING	MOMBASA	PHARMTECH
FAIRDEAL SHOPPING CENTER	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
TSS BUILDING	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
OPP SHANZU TEACHERS	MOMBASA	PHARMTECH
MUKDEEP TOWER	MOMBASA	PHARMTECH
FLAMINGO	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
TUSKYS	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
PERMANENT	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
SURA PLAZA	MOMBASA	PHARMTECH
KASMANI	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
CHAKACHAKA HOTEL	BOMBOLULU	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
NEAR POSTA BAMBURI	MTOPANAG	PHARMTECH

LINKS PLAZA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
PERMANENT	MOMBASA	PHARMTECH
MIRITINI	MOMBASA	PHARMTECH
ISOLATED	MOMBASA	PHARMTECH
BINZINE BULIDING	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
COCA COLA BLD	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	TUDOR MARKET	PHARMTECH
NEAR POSTAL OFFICE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
GROUND	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
CINEMAX PLAZA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
NO NAME	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
FLAMINGO HSE	MOMBASA	PHARMTECH
BOMBULULU	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
THE OFFICE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
KHOJA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MIGADINI	MOMBASA	PHARMTECH

NO 5 PLAZA	MOMBASA	PHARMTECH
	KONGOWEA	PHARMTECH
	SHANZU - MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
KISAUNI	MOMBASA	PHARMTECH
PORTREITZ	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
NXT TO BARCLAYS BANK	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
PERMANET	MOMBASA	PHARMTECH
ISOLATED	MOMBASA	PHARMTECH
MAKADARA BLD	MOMBASA	PHARMTECH
TEXAS BLD	MOMBASA	PHARMTECH
	MWEMBE TAYARI	PHARMTECH
	MOMBASA	PHARMTECH
	BOMBOLULU	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
SPARKI STAGE	MOMBASA	PHARMTECH
BIASHARA	MOMBASA	PHARMTECH
MAJID AZI, OPP. BLOOD BANK	MOMBASA	PHARMTECH
MEMON VLLA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
OLE MONANO	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MWAI BLD	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
KENOL PETROL STATION	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MLALEO BUILDING	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
N/A	BAMBURI	PHARMTECH
	MOMBASA	PHARMTECH

OPP FREINDS CORNER	MOMBASA	PHARMTECH
BAMBURI	MOMBASA	PHARMTECH
WILTON GATEWAY	MOMBASA	PHARMTECH
GANJONI	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
BONDENI	MOMBASA	PHARMTECH
	BAMBURI	PHARMTECH
1826	MOMBASA	PHARMTECH
JOMVU	CHANGAMWE	PHARMTECH
	MOMBASA	PHARMTECH
GANGA NIVAS	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
STADIUM AREA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
PLATE BAMBURI BLD	MOMBASA	PHARMTECH
EPIC PETROL STATION - NYALI	MOMBASA	PHARMTECH
BADAWOOD	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
NEAR FISHERIES	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
MBORA BUILDING	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
NAKUMATTLIKONI	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
RADIANCE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
HATIMY	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	BOMBOLULU	PHARMTECH
PERMANENT	MOMBASA	PHARMTECH

N/A	MAJENGO MARKET	PHARMTECH
	MOMBASA	PHARMTECH
JAMAL	MOMBASA	PHARMTECH
KARIMI HOUSE	MOMBASA	PHARMTECH
KCB MVITA	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
SAYYIDA FATIMAH HOSPITAL	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	TUDOR MARKET	PHARMTECH
	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
N/A	MOMBASA	PHARMTECH
ISOOLATED	SHANZU - MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MIGADINI	MOMBASA	PHARMTECH
	MSHOMORONI	PHARMTECH
	MOMBASA	PHARMTECH
	BAMBURI - MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
XI/724	MOMBASA	PHARMTECH
JUA KALI	MOMBASA	PHARMTECH
WYCLIFF BUILDING	TUDOR MARKET	PHARMTECH
	MOMBASA	PHARMTECH

	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MARIM	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
5271	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
KISIMANI	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	TUDOR MARKET	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
BAGHDAD HOUSE	MOMBASA	PHARMTECH
FAZEEM	MAJENGO MARKET	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
MAKANDE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
OPP SAKINA MOSQUE	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
VOK FLATS	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH
	MOMBASA	PHARMTECH