Drug Naming: Morphological Formation and Structure

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Abstract

The researcher examined how pharmaceutical drugs are named by brands using morphological processes. Naming is a global phenomenon and it is applied in various fields. Names are given to give life and make an object a referent. Naming is not limited to human beings alone, drugs also have their names. The focus of the article was on pharmaceutical drug naming morphological processes as a practice in linguistics. The theoretical framework used for the study is the onomasiological theory. Document review related to pharmacology such as textbooks and online journal articles were used for data collection for the drug names. It was revealed that non-proprietary drug names are constructed out of affixes and stems that the drug classes belonged. The researcher concluded that most names are compound names which reveal various morphological processes.

Keywords: drug, naming, formation and structure

Introduction

Onomastics is the study of proper names. These names are given and used as a means of identification of particular beings or objects (Chanda, 2017). Advances in

the field of onomastics, particularly anthroponomastics (personal names), have increased awareness involving the multidisciplinary nature of naming. As a result, many linguists such as Maurer (1983), Emeneau (1976), Roff, (2007), and Wakumelo, Mwanza and Mkandawire (2016) have written on personal and place names but have paid little attention to drug naming. According to Chanda-Tembo (2017) brand names or business names are devices used in differentiating one business or product from another. Drug naming is a process of naming and classifying drugs. This study was undertaken to explore the morphological processes used by manufacturers and to ascertain how productive morphological processes could be in drug naming.

Drug Naming Overview

According to Khilnani, Khilnani and Thaddanee (2014) drugs in some communities, were formerly named either after a god or socio-cultural practices or name of the scientist who discovered the drug or contributed to the development of it. For instance, Morphine is a drug that belongs to the narcotic analgesics which are used for pain relief and are often called pain killers, however, the name Morphine is a name of a Greek god of dreams called Morpheus. Some drug names help to identify the nature and action of a drug which helps to prevent prescription errors and duplications. Furthermore, Aronson (2004) observed that care should be taken in choosing names of drugs in order to avoid confusion which often emanate from the use of common suffixes and prefixes.

Khlanani, Khilnani and Thaddanne (2014) observed that drugs are usually classified into three categories such

as the chemical /molecular/ scientific name, generic or non-proprietary name and the brand/trade or proprietary name. A chemical name depicts the structure of drugs in terms of atoms and molecules. The drug names that fall into this category are useful to the technically trained personal for example, acetyl-p-amino-phenol is for Paracetamol while, the Non-Propietary names are the abbreviated and approved name of the drug. It is the official medical name assigned by the producer in collaboration with the Food and Drugs Board and Nomenclature Committee. The Non-Proprietary or generic name is useful because it removes the confusion of giving several names to the same drug. A generic name is often not capitalized and do not begin with H,J,K or W because the letters do not exist in some of the 130 countries that use US generic names. In the US, the generic name is often referred to as the USAN while in Britain, it is known as the IBAN. The USAN Council avoids prefixes and stems like 'brev', 'vel' 'mal' or 'mol' because they imply brevity, velocity, bad or death respectively. It is important to note that some generic names do not reflect in the brand names, a typical example is atorvastatin which is sold under the trade name of Lipitor which contains drugs that lower cholesterol and inhibit the buildup of plaque in veins and arteries.

Generic names are mostly formed through affixation or other morphological processes to show how the drug functions. The last class is the brand name which is the name given to a drug by the manufacturing and marketing company. Ogwuche, Olasehinde & Obiaga (1993) observe that Nigerian doctors use generic names more than the trade name in prescribing drugs to patients this is in line with the Federal Ministry of Health stipulation

in Nigeria. Often, Nigerians use the trade names to purchase their drugs and this leads to complication and in extreme cases death. What motivated the researcher to go into the research work is the high level of ignorance and high rate of drug abuse among the young and old in Nigeria as reported by Owoseye (2019) that 14.3 million people in Nigeria use drugs outside prescription due to lack of control of prescription drugs, parental neglect, peer pressure, poverty and unemployment (Fareo, 2012). Many people suffer from a lot of complications by taking the same drugs with different brand names which has led to a lot of kidney damages. It is hoped that this work will provide the morphological techniques of drug naming and what patients should look out for while buying drugs.

Theoretical Framework

Brand naming is an important aspect of Linguistics even though, many scholarly works have not been written in the area. Brand names use linguistic forms to form names. The theory that most captures this study is the Onomasiological theory of word formation . Onomasiological theory is interested in the bilateral nature of morpheme. Stekauer (1996) opines that Onomasiological theory of word formation is of the view that there is a relationship between word formation and lexical components and also naming responds to the naming needs of members of a community. Names are coined either by taking the word formation component which are regular and productive word formation rules, or lexical component. He gave different levels of word formation components such as semantic level, onomasiological level, onomatological

level, phonological level and conceptual level. At onomatological level, he talked about morpheme to seme assignment principle also known as form-to-meaning assignment principle where concrete morphemes (affixes) are selected and all naming units are based on assigning linguistic units to semes. The seme constitutes an onomasiological structure which makes it possible to give traditional notions of word formation processes. The theory is useful to the study because the researcher analyzed drug names according to their traditional word formation classes.

Literature Review

Researches on morphology of drug naming are rather scanty. Pamungkas and Abdulah (2017) investigated the word formation process used in over the counter medicine products in Indonesia. They discovered that blending, clipping and compound are the most productive techniques brand name givers adopt for their products. The study is related to the present study in a major way. Just as they studied over the counter medicine, the present study looks at commonly abused drugs in Nigeria.

Williamson (2013) studied morphology of brand names. She discovered that most brand names come from Romance languages and they also have hidden meanings such as Allegra. William maintained that clipping, and suffixations of certain words are the most creative morphological processes used by most drug names. She concluded that creation of names is difficult and it involves numerous linguistic tactics. The study enriched the researcher's knowledge on drug naming. It is also similar to the present work because it considered

morphological processes of drug naming while the study emphasized on oral contraceptive, cholesterol medication and antihistamines, the present study emphasizes on diabetic, hypertensive and analgesic drugs.

Anita, Emoabino, Egbesimba (2006) studied the morpho-semantic nature drug trade names. They observed that manufacturers often use blending and clipping to encode the brand attributes. They also discovered that the combination of generic drug names have the potentials of confusing and deceiving the users. The work is similar to the present work because both looked at word formation processes.

Pires, Vigario and Cavaco (2015) studied brand names of Portuguese medications and their linguistic structure. They discovered that a significant number of names failed to comply with the Portuguese phonologic and spelling system. Additionally, the similarity of medicine brand names could be confusing and could harm patients. They concluded that a detailed linguistic feature of brand names should be provided to avoid ambiguity.

Delia, Jauro, Garba and Jerome (2008) did a linguistic analysis of selected antibiotic information leaflets. They discovered that most leaflets are expressed in simple, compound, complex, declarative or imperative sentences. They also concluded that the use of complex sentences and over use of chemical terms cause ambiguity and complexity for the user. The work is related to the present work because the present work also looked at antibiotics.

Methodology

This was a desk study through document analysis. Document analysis is a qualitative research method of data collection in which documents related to a study of interest to the researcher are analyzed. Bowen (2009) noted that in document analysis, relavant documents are analysed interpreted by the researcher with a biase on topical matters. O'Leary (2014) observed that there are three types of documents considered in qualitative research. These are: public records, personal documents and physical evidence.This study analysed public documents related onomastics in pharmacology. Documents analysed included textbooks, bulletins and journal articles. Information was collected and analysed thematically and the data with similar structure was grouped together under themes and sub themes. Out of many drug names gathered, forty-three drug names were purposively selected for this study because they are the most commonly used drugs by young and old men and women living in Awka, Anambra state, Nigeria.

Results

The study identified four word formation processes associated with drug names. Furthermore, selected drug names that were established were grouped and analyzed using four word formation processes namely; clipping, blending, prefixation, and suffixation.

Clipped Drug Names

Clipping is the word formation process in which a word is reduced or shortened without changing the meaning of a word. Most popular antibiotics used

in Nigeria have brand names that are formed through clipping. Williamson (2013) opined that clipping is one of the most creative morphological processes used by drug names. Antibiotics are the most abused drugs among the youths and adults in Nigeria . People are usually prone to infection because of low hygiene level, poverty, cultural practices, inaccessibility of health facilities and cost some, (Auta, Banwat, Dayoms, Shalkur and Amu, (2012); Anyawale, Okafor and Odukoya, (2017) hence, they rely on self medication without understanding the technicalities involved in drugs and drug naming. Table 1 shows antibiotic drug names in generic and brand.

Table 1: Antibiotic Drug Names Formed through Clipping

SN	Generic	Brand
1	Ticarcillin	Ticar
2	Pipercillin	Pipracil
3	Amoxicillin	Amoxil
4	Mezlocilin	Mezlin
5	Nafcilin	Nafcil, Nallpen

Table 1 shows that antibiotics brand names are created from a source word *'Cillin'* family of drugs through the word formation process of clipping as seen in Amoxil; for Mezlocilin which is clipped as Mezlin; Nafcilin which is clipped as Nafcil . This will enable a consumer to easily know that such drugs belong to the Amoxicillin family.

Drug Names formed through Blending

Blending is the type of word formation process whereby parts of two or more words combine to create a new word. Most diabetic drug names for treatment of type 2 diabetes for overweight people are formed through blending. Some of the drugs are classified in table 2 below:

Table 2: Diabetic Drug Names Formed through Blending

SN	Generic	Brand	Function
1	Metformin	Theraformin Tormin Glyformin Gluoformin Forminal Formin Diaformin Conformin Diaformin Conformin Asoformin	Is for the treatment of type 2 diabetes particularly for overweight people

The '*min*' drug family is administered to related illnesses but in some cases different. For instance, Asoformin is for the treatment of type 2 diabetes particularly for overweight people while other drugs as forminal is administered to a slightly different illness. In Table 2 most drug names are derived from the generic name which are attached to the word through the process of blending such as brand name + formin. Hence, for brand names in this category, blending appears to be the most productive of all the names in the

group. Blending as a word formation process is also used for other drugs as well. For instance, Narcotic drugs in Table 3 are formed blending. Narcotics are also called narcotic analgesics. Drug names in table 3 are the most powerful pain relievers and are often called painkillers.

Table 3: Narcotic Analgesic Drug Names Formed through Blending

SN	Generic	Brand	Function
1	Oxycodone	Oxycontin Roxicodone Oxecta	Pain reliever
2	Morphine	Astramorph PF Duramorph Oramorph SR	

The brand names in Table 3 above are formed through a combination of some parts of the generic names and brand names such as Oxy found in Oxycontin and Codone found in Roxicodone. The process of word formation used is blending. While, Ox in Oxecta indicates that it is a prefixation. This will give the consumer a clue of the generic name and the function of the drug. While, for the second group Morphine blending appears to be the most productive as can be seen in Astra +morph; Dura + morph; Ora +morph. The brand names could also be called compound names because they are combinations of two separate words example: Astra + morph; Roxi +Codone.

Drug names derived through Prefixation and Suffixation

Prefixation is the process of adding word at word initial position while, suffixation is the process of adding a word at word final position. It is one of the productive word formation processes in most of the languages of the world particularly the English language. When affixes are added to the root of the word it causes inflection. However, inflectional suffix does not change the world class of a particular word. In English, inflectional suffixes are mostly prominent in English verbs such as eat: eats, eating hence, suffixes indicate the present and present continuous tense of the verb. Suffixes could also alter the word class of the base. Adjective suffixes are often common in borrowed and neoclassical words such as -ic iconic, -ive attentive, -eous courteous. Additionally, suffixes occur in science or mathematics such as – graph telegraph, photograph; -ology etymology, biology, geology. It could also change a noun to an adjective such as like childlike; -ish foolish.

Table 4: Heart Attack drug names formed through Affixation

SN	Generic	Brand	Function
1	Metaprolol	Metaloe Metocard Selomet Asorol Blumeta Cardibeta –AM Carpro Intramet Kimet Libmet – XL Mepol Metaprol Meto Metolar	It is used to prevent or treat heart attack

In Table 4, brand names in this category have an extraction of the generic name Meta in most of the brand names and prol in some brand names too. The most productive of the word formation processes is suffixation. Met is suffixed at the stem of the brand name such as Libmet XL, Selomet, Blumeta. While Meta appear to be prefixed in Metaprol, Mepol hence, the word processes involved in this section are: suffixation and prefixation.

It is worthy to note that most trade names are drugs produced in India. The reason for using most drugs produced in India is because most Nigerian drug marketers patronize drugs mostly manufactured in India than drugs from any other part of the world, Raufu (2003).

Conclusion

The researcher has been able to expose that many brand names usually adopt misleading names and various morphological processes for creating commonly used drugs. Many brand names were coined through clipping, blending and suffixation. The researcher concludes that there is no set or single morphological process used for creating drug names.

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