



Linguistics Initiative

ISSN 2775-3719

Volume 4, Number 1, (2024)

<https://doi.org/10.53696/27753719.41128>

Published by *Pusat Studi Bahasa dan Publikasi Ilmiah*
(Center for Language and Scholarly Publishing Studies)

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Pharmacological Onomastics: The Case of Herbal Drugs in Ghana

Douglas Adade ^{(1)*}, Stephen Kwaku Duah ⁽²⁾, Emmanuel Botchwey ⁽³⁾, Kwasi Opoku ⁽⁴⁾

⁽¹⁾ Ghana Baptist University College, Kumasi, Ghana

⁽²⁾ Berekum College of Education, Berekum, Ghana

⁽³⁾ Sunyani Technical University, Sunyani, Ghana

⁽⁴⁾ University of Energy and Natural Resources, Sunyani, Ghana

* douglasadade71@gbuc.edu.gh

Abstract

The study is an exploration of the naming system in herbal medicines within the linguistic landscape in Ghana. Brand names are more than just labels. A lot of considerations go into choosing a name for a product brand. This study takes a walk into the world of pharmaceutical onomastics with 105 herbal medicines taken from the Ghanaian market. We examine the names from the perspectives of pharmacology, branding, and the interplay of marketing, socio-cultural as well as linguistic factors. The analysis revealed, first, that most of the brands deployed bilingual names, with just a few utilising monolingual names. Closely allied to this finding is the trend of encompassing the drug indications and compositions in the name. The practice of naming the drug after people, especially manufacturers, is also observed. These key findings have implications for the scholarship in onomastics, pharmacology, sociolinguistics, and further research.

Keywords

herbal medicine, pharmacology, naming, branding, sociolinguistics, marketing

Introduction

A lot of researchers in onomastics have shown significant interest in areas like anthroponomastics (personal names) and toponomastics (place names) while little attention has been given to drug names in Ghana. Studies such as Obeng (1997), Agyekum (2006), Sekyi-Baidoo (2019), and Murtala (2023) concentrated on anthroponyms while Mercy (2013), Mireku-Gyimah and Mensah (2015), and Ansah and Mireku -Gyimah (2021) focused on toponyms. The use of herbal drugs is very much ingrained in the cultural fabric and healthcare practices of most African countries, of which Ghana is no exception. Traditional medicine, also known as ethno-medicine, folk medicine, native healing, or complementary and alternative medicine (CAM), is the oldest form of healthcare system (Abdullahi, 2011). Until the advent of orthodox or cosmopolitan medicine, folk medicine used to be the dominant medical system available to developing countries. According to the World Health Organisation (WHO), between 60 - 80% of people in the developing world rely on traditional medicines for their healthcare needs (Calixto, 2005). Regarding the specific demand, according to Van Andel et al (2012), it appears that medicinal plants are used to complement or substitute Western medicine in Ghana.

The global herbal medicine market is huge and still growing. According to Market Data Forecast (2023), the global herbal medicine market is worth USD 200.95 billion in 2023 and is expected to be valued at USD 284. 75 billion in 2028. There are a whole lot of herbal mixtures with different names that have saturated the Ghanaian market, most of them purporting to cure a plethora of ailments. Consequently, jostling for space in this competitive market is expected. Crucial to this competition is not only the efficacy of a drug but also the brand, which is encapsulated in a name.

Trade, in all its various forms, has been part of human life in all communities. The need to have trade names became necessary when commercialization with its associated competition became an indispensable part of man. Agyekum (2006) in his discussion on anthroponyms states that “we name in order to differentiate, to recognize and finally to know” (p 207). This assertion is equally true for trade names. Trade names help to distinguish one brand from another, especially if similar products are being produced within the same space.

Akoto and Ansah (2021:77) assert, “Typologies in names are provided for convenience, identification, and some kind of ideological labeling.” Herein lies branding, which is a crucial component in marketing. Product names are the immediate port of call as far as interaction between a consumer and a product is concerned. Hence, brand names are purposively chosen to get the attention of potential consumers. For purposes of branding and marketing, enticing names are given to the herbal medicinal products to catch the attention and demands of the populace. Naming is a very critical component in marketing and manufacturers of these products are not oblivious to this. Typologies in names also reveal significant information about the naming practices of a socio-cultural group (Agyekum, 2006).

This study seeks to look at the onomastics behind the names of herbal medicine products in Ghana, their pharmacological considerations, their socio-cultural inclinations, and their implication in the competitive market environment. In effect, we look at what goes into the choice of names for the myriad of herbal medicinal products in the country, with focus on those found in the Kumasi shops.

Herbal medicine in Ghana is deeply rooted in the pharmacological choice of most Ghanaians. With a history that stretches back ages, the indigenous knowledge pertaining to herbal remedies has been a critical component of the Ghanaian healthcare system, providing efficacious treatments for a myriad of ailments. Although the WHO attributes accessibility and affordability as the cardinal reason for this proclivity, Ndeti (2022) mentions that the majority of Ghanaians prefer the use of herbal medicine to prescribed (orthodox) drugs because they are of the view that natural medicines have fewer side effects compared to the prescribed drugs. Van Andel et al (2012) opine, "Medicinal plant markets not only provide a snapshot of a country's medicinal flora, they also reflect local health concerns and the importance of traditional medicine among its inhabitants" (p 368).

This profound reliance on herbal medicine is mirrored in the names attributed to these herbal remedies, offering an intriguing entry point into the intersection of linguistic heritage, traditional healing practices, and contemporary healthcare in the country. Manufacturers adopt unique naming styles to stand out. Some adopt a unilingual approach whereas others prefer the bilingual naming system. The pharmacological, linguistic, and socio-cultural factors are very influential in the name choices.

The study of pharmacological onomastics, which examines the names and nomenclature of herbal medicines, represents a crucial area of research within the context of traditional medicine in Ghana. While herbal remedies have been an integral part of Ghana's healthcare system for centuries, there exists a significant gap in our understanding of the names and nomenclature associated with these herbal medicines in the Ghanaian market space. As Ghana strives to achieve a harmonious integration of traditional and modern healthcare systems, it is essential to bridge the knowledge gap surrounding the names and nomenclature of herbal medicines.

Available literature to date has concentrated on the names of the plants, roots, and trees used in the preparation of these drugs, but not on the final products on the shelves of pharmacy and chemical shops. For instance, Van Andel et al (2012) looked at medicinal plant products in the market; Osei-Djarbeng et al (2014) studied medicinal plants in relation to antimalarial herbal preparations in the Ghanaian market; Boadu and Asase (2017) concentrated on the documentation of herbal products with no interest in the meaning of the brand names. There is also attention on trade names and drug names but hardly any on herbal drugs. For instance, Bughesiu (2015) looked at general trade names in contemporary Romania; Bruera et al (2000) zeroed in on trade names of drugs while concentrating on abstracts from pain congresses. Matthews (1997), Udoye (2019), and Saitovna (2023) have also discussed names of drugs but not herbal medicinal products.

The lacuna found here is understanding the linguistic and socio-cultural nuances in the naming of herbal medicines in Ghana. There hasn't been any known work in the available literature studied so far that seeks to unveil the onomastics of herbal drugs in Ghana. This study seeks to fill this gap by bringing to the fore an appreciation of the meaning behind the names, how the names are structured, and their pharmacological and market significance.

The study of herbal medicine names in Ghana is not merely a linguistic exercise; it also has pharmacological implications. Traditional healers and practitioners use these names to communicate the therapeutic uses, dosage, and preparation methods for each remedy. By delving into the onomastics of herbal medicines, researchers can gain a better understanding of the pharmacological knowledge embedded within these traditional systems. Understanding the semantic and cultural dimensions of these names and their market dynamisms is pivotal in the socio-cultural representation of the people, both producers and patrons of the drugs. It also offers the opportunity to understand the cultural dynamism of the people and their evolving societies and their naming systems. Again, the study opens avenues for further research into the unique categories of medicinal product names and other related areas.

The study aims to achieve the following objectives:

1. To understand the naming systems in the herbal medicine products
2. To look at the various considerations in the naming systems of herbal medicine
3. To ascertain the marketing implications of the naming system of the herbal mixtures

To achieve the research objectives, the study aims to address the following questions:

1. How are the names of herbal medicines in Ghana structured and categorized?
2. What are the socio-linguistic considerations in the naming of herbal medicines in Ghana?
3. How do pharmacological and market implications influence the naming of herbal medicines in Ghana?

We look at some literature related to our study. We consider the theoretical framework guiding the study and other related issues. This work is hinged on the onomasiological theory of Stekauer (2001) and naming theory. 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. Stekauer proposes that names are created either by taking the word formation component which are regular and productive word formation rules, or by lexical component. Aside from the linguistic components in naming, there is also the conceptual dimension. We will be interested in the morphological, the lexical and conceptual underpinnings of the name choices in herbal drugs.

Naming theory, also known as the “naming convention” is a systematic approach to naming or labeling objects, entities, or concepts in a consistent and well-structured manner (Hough & Izdebska, 2016). Naming theory, especially in the context of product

names, encompasses the principles and strategies behind creating effective and memorable names for products, brands, or businesses. A well-chosen name can significantly impact a product's success by influencing consumer perception and brand identity. Some key principles are outlined in naming a business or product.

- **Distinctiveness:** A product name should be distinct and unique to stand out in a crowded marketplace. It should avoid common words or phrases that may lead to confusion with other products.
- **Relevance:** The name should encompass some relationship to the product's features, benefits, or purpose. This can help consumers understand what the product is about without requiring further elucidation.
- **Memorability:** A memorable name sticks in the minds of consumers. Short and easy-to-pronounce names are often more memorable and recommended.
- **Emotional Appeal:** Some names evoke emotions or feelings that align with the product's intended image. "Coca-Cola," for instance, uses alliteration and a friendly, bubbly sound to create a positive and refreshing connection.
- **Cultural Considerations:** Names should take into account cultural norms, sensitivities, and preferences. A name that works well in one culture might not do same in another.

(See Roach, 2018; Hough & Gregory, 2014; Lebuda & Karwowski 2013; Roper & Parker 2006; Keller, 2003)

Felecan (2013) in discussing naming theory also outlines certain onomastic and linguistic considerations in trade or product naming. Anthroponymically, the registration of names of businesses in legal documents matches with the officialisation of civilian naming, but social implications are immediate as regards communication and advertising. Sociolinguistically, names of firms are an indicator of the social structures and interactive processes specific to a community. Psycholinguistically, one can predict the relationship between the structure of the names and the mental processes of the individuals that create them and value them in a given communicative context. Felecan (2013) adds that cognition, memory, emotions and temperaments, are all significant in the appearance and structure of names of businesses.

Language is an integral part of the culture of a people. It gives an entity an identity and points to the origin of that entity. This language is expressed in words. According to Agyekum (2006: 210) "A society's world is fitted to words and words may also be fitted to the world. There is a strong relationship between the world, which is reality, and the word, which is language." Choice of words in the representation of language brings out what we want to present to the people who listen to us or read us.

Every name is associated with a language. A name is carried in language; that is, language is the vehicle on which a name is conveyed. This naming transcends the term 'word'. Sekyi-Baidoo (2019:11) asserts that "The basic and universal mark of a name is a

linguistic formula with a referential function.” His position does not preclude a name’s semantic, grammatical, and pragmatic functions or properties. The term ‘linguistic formula’ is preferred to ‘word’, according to Sekyi-Baidoo (2019) because a name in some languages and cultures will consist of more than just a word. Names utilize the linguistic properties inherent in a language. There are morphological, semantic, syntactic, and even phonological considerations in brand naming. In effect, we should be able to analyse a name from these linguistic perspectives. This is also true of brand names and by extension names given to herbal drugs. As much as possible, labels assigned to products should be able to undergo linguistic analysis to understand what informed such choices.

Akoto (2018) has a tripartite classification of languages used in Ghana. His model classifies language in Ghana into local, global and glocal. The local is made up of the first language of the indigenous people, which is a mark of identity. All other languages are categorized under global while the glocal language label is restricted to only English, considering the language’s deep connection to the identity politics of Ghanaians (Akoto et al, 2023).

Again, Akoto and Afful (2021) dichotomize the language situation in Ghana into languages *of* Ghana and languages *in* Ghana with the former being the indigenous/local languages and the latter, the foreign languages like English, French, Chinese, etc. spoken in Ghana. English, as a result of its status in Ghana as the official language, is quite pervasive in the country. A name referencing an entity may be monolingual or multilingual, depending on the intention and target of the company or manufacturer of the product. And the multilingual names usually include English and at least one local name.

A brand name is a signature of a sort that gives credit to the creator of a particular work or service and sets it apart from similar products created by others. Brand names are essential for several reasons. Lischer (2021) opines that a brand is an aggregation of how a product is perceived by those who experience it—including customers, investors, employees, the media, and others. Branding is the process of shaping these perceptions. A brand name identifies a specific company, product, or service and differentiates it from similar brands within its category. Nordquist (2020) points out identification and verification as two main purposes of brand names. First, it is to differentiate a particular product from other similar products. Second, to authenticate a product as the genuine or desired article (as opposed to a generic one).

Researchers agree that the choice of a brand name for a product can alter the consumers’ judgment about the product and their purchase decision-making process (Hillenbrand et al, 2013). Erlich (1995) mentions that in 1994 pharmaceutical companies spent \$307 million on ads directed to consumers, about 40 percent more than they spent in 1993. The figure is obviously astronomical today. The reason for spending so much is simple: “Drug companies want you to become loyal to their brand and to ask your doctor for it before patents expire and generic equivalents flood the market at less than half the price” (Erlich 1995:36). She adds that in the competitive pharmaceutical markets where cutthroat is the order of the day, “Naming has become the thing.”

Bastos & Levy (2012) consider branding as a symbol and a sign. At the core of the branding concept is the penchant of the individual to be someone of consequence, to create a personal and social identity, to present oneself as both like other people (sharing similar traits or producing similar products) and unlike other people (e.g. to stand out or being unique within the same space), and to have a good reputation. Kotler (1991) affirms that a brand is a name, term, sign, symbol/design, or a combination of all of these intended to distinguish it from those of other competitors. Bastos and Levy (2012) add that branding as a form of marketing is developed by application to oneself, to other people, and to property; it takes both literal and metaphorical forms; and is seen either positively or negatively.

A well-chosen product name helps create brand recognition, communicate its value proposition to customers, and can play a significant role in influencing consumer perception and purchasing decisions. Some products are named after manufacturers of the product (Norquist, 2020). This, according to Heisey (2023) is called legacy product names. For instance, Ford Motors and Amuzu Herbal Bitters. Norquist (2020) again mentions that some product names simply give an indirect inclination of the potency of the product. So, though the product has nothing to do with mollusks, Shell Oil evokes the strength and power of shells. Among the list of product name categorisation by Heisey (2023) are the following: names may describe or name the products or services as in Mr Clean; they may reflect with company name as in Angel Herbal Mixture (from Angel Group of Companies); they may indicate the ingredients or materials of products as in Sparnis Garlic Bitters. or may express the origin or production location of a product. For example, Ghana Swaga Herbal Powder. Norquist (2020) observes that some product names may not identify a specific quality, but rather, evoke a concept or a feeling. Such names have a symbolic rather than literal meaning. Thus, whereas the name Coca-Cola contains cola (as an ingredient) and also evokes phonological appeal with alliteration and assonance, Apple and computers have no bearing yet the name Apple is chosen as a brand name.

A key component of marketing is branding. Naming is an essential element of branding and is the process of creating and promoting a brand name and identity for a specific drug or product within the pharmaceutical industry. "The case for branding in the pharmaceutical sector is partly accentuated by the sensitive nature of pharmaceutical products and the need for brand credibility to obviate perceived risk and to guarantee product quality" (Anabila & Awunyo-Vito, 2014:503). Pharmaceutical branding also creates an awareness of the existence of a drug and gives some level of authenticity boosting the confidence of the potential consumer in the drug.

Name and identity are connotated in the concept of branding. Among some key considerations of Pharmaceutical Product Branding (2023) is that a strong brand name should be memorable, easy to pronounce and spell, and reflective of the product's benefits or therapeutic area. The brand name should also be trademarked to prevent competitors from using a similar name.

A brand name should not look or sound like another name. This is all so important in the pharmaceutical industry because of the dire consequences it may pose if one drug,

instead of another, is mistakenly consumed by a patient. Erlisch (1995:37) mentions that “the F.D.A. nomenclature committee routinely rejects a third of all names submitted, on the basis of implied claims (Rogaine was originally Regain) or sound-alike/look-alike names (Losix/Lasix), which have caused prescription errors, some of which have resulted in death.”

A rather piquant observation is made by Moss (2001) who believes that the pharmaceutical industry has traditionally focused on marketing products rather than medicines. This particularly ties in with the researcher's observation of most herbal drugs sold in the Ghanaian market. The focus of this study is far from ascertaining the efficacy or otherwise of the herbal products, but it's imperative to note that the naming systems transcend just the medicinal attributes of the drug delving rather deeper into the marketing considerations.

Drugs, like many other entities and devices, go through processes to acquire their names. The primary task of pharmacology is the taxonomy of biologically active molecules and with these classifications comes the task of nomenclature (Kenakin, 2009). Technically, the fundamental consideration for naming drugs has to do with a “combination of their primary target (for example, a histamine H1 receptor) and a description of either their directly observed effect (that is, agonist, inverse agonist) or interfering coeffect with another ligand, usually the endogenous ligand (that is, antagonist)” (Kenakin, 2009)

Every medicine has 2 names: a brand name, from the pharmaceutical company that markets the medicine, and a generic name, which is the medicine's active ingredient that makes it work (Healthdirect, 2022). Generic names are mostly formed through affixation or other morphological processes to show how the drug functions (Udoeye, 2019) For instance, Zithromax is a brand name whose generic name is azithromycin.

According to Karet (2019:686), in the United States, “pharmaceutical names are assigned according to a scheme in which specific syllables in the drug name (called stems) convey information about the chemical structure, action, or indication of the drug.” The name also incorporates a prefix that is unique from other drug names and that is “euphonious, memorable, and acceptable to the sponsoring pharmaceutical firm” (Karet, *ibid*). Aronson (2004) cautions against choosing similar prefixes in naming drugs because of the potential for confusion. Some drug names help to identify the nature and action of a drug which helps to prevent prescription errors and duplications (Udoeye, 2019). Thus, how a drug is classified and named is hinged on how it is used, and any misrepresentation of the activity of a drug through misnaming can breed disharmony.

The United States Adopted Names (USAN) is responsible for assigning generic (nonproprietary) names to all active drug ingredients in America. The World Health Organization, outside of the USA, is responsible for publishing recommended International Nonproprietary Names (INN) for active drug ingredients. As a result, it is on rare occasions that generic names inside and outside of the US change. Karet (2019) cites the case of acetaminophen in the US which is known internationally as paracetamol.

Khilnani et al (2014) postulate that drugs in some communities, were formerly named either after a god or socio-cultural practices or the name of the scientist who discovered the drug or contributed to its development. 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 (Udoeye, 2019).

The above considerations, notwithstanding, when it comes to branding and naming drugs, as indicated earlier, some names may not reflect any meaning. They are chosen for marketing purposes. Erlich (1995) asserts that "Pharmaceutical firms now pay consultants upward of \$100,000 to coin snappy trademarks---names that may be meaningless but sound medicinal and appealing, and are memorable enough that they become synonymous with the product." Thus, name coinage is also a strategy producers use just to imprint some memorability in the minds of consumers.

According to a study by Cleveland Clinic in 2020, the American Urological Association has asserted that between 30% and 40% of men experience premature ejaculation at some point in their lives. Premature ejaculation is claimed to be the most common type of sexual dysfunction in men, according to my.clevelandclinic.com (2023). It has been known historically to be a psychological disease (Raveendran & Agarwal, 2021).

The case is no different in Ghana. Van Andel et al (2012) in their market survey of traditional medicines in the Ghanaian space encountered 244 medicinal plant products, representing 186–209 species. Plants sold at the market were mostly used for women's health, in rituals, as aphrodisiacs, and against sexually transmitted diseases. And as Kotler (2001:1) asserts, "Marketing deals with identifying and meeting human and social needs". Consequently, alluring names are given to these products to reflect their potency or what they claim to cure. It is therefore not surprising that many of these herbal mixtures which claim to remedy sexual weakness have names that are suggestive of their remediation prowess and potency. For instance, Man Power Capsules, Ex Power Capsules, Bestman Capsules, and Delayman Capsules.

Drawing on a combined analytic approach of socio-onomastics and Feminist Critical Discourse Analysis, Motene (2022) looks at the naming practices employed for traditional male Sesotho aphrodisiacs intending to unveil the ideologies reflected and promoted by these names. The findings reveal how gendered power relations are discursively reproduced by explicit and implicit meanings inherent in the names of traditional male Sesotho aphrodisiacs. Aphrodisiacs dominate the Lesotho media landscape in advertisements on traditional medicines meant to cure various ailments (Motene, 2022). She concludes that the names given to such drugs are suggestive of "ideological investments that condone extreme violence against women" (p 246). The following examples are cited as promoting violence against women in a seemingly subtle and innocuous manner: "*berella* ('heavily press down'), *moroba-bethe* ('bed breaker'), *mofafola* ('that which pulls a body part painfully'), and *matlatlapa* ('that which abuses')" (p 252). A similar situation is found in the naming of some drugs in Ghana like *METE wo dross* (I will rip off your underwear) which shows brutish masculinity and therefore could be said to be offensive to the socio-cultural inclination of the people.

The Foods and Drugs Authority is the body mandated to approve drugs to be sold in Ghana. Advertisements of these drugs in any form must be vetted and approved by this authority. Names of drugs, per the FDA guidelines, are supposed to go through a rigorous exercise before being approved.

The guideline of the FDA was developed in line with Section 118 Subsection 8 of the Public Health Act, 2012 (Act 851) which states that a product name should (a) not constitute a safety hazard, b) not be misleading, (c) be established or based on international non-proprietary names, or (d) stem from a related substance or for any other sufficient reason determined by the Authority (FDA, 2021).

A drug name may be deemed inappropriate if the name has been associated with unsuitable use of the product, unclear label abbreviations, acronyms, and improper labeling. Thus, the FDA may ask for a name change “if found to (a) be unsafe (b) be misbranding (c) bear a close resemblance to a registered product d) mislead as to the composition of the product or the use” (FDA, 2021:1).

The following are categorically spelt out in section 4 of the FDA guidelines as requirements to fulfill in naming a medical device. The brand name of a medical device should not be misleading with respect to the following: ambiguity, half-truth and trade puffery, expressions of opinion or subjective statements, deceptive pictorial matter, misleading testimonials, and misleading list of parts or components. Further considerations are factored in the naming. For instance: Pharmacologically, the brand name should not convey a promotional message concerning the therapeutic and/or pharmaceutical characteristics and/or the composition of the product. Linguistically, consideration should be given to the phonetics and the potential difficulties a proposed brand name may create in terms of pronunciation in the official language of Ghana. Pires, et al (2015) studied brand names of Portuguese medication and their linguistic structure. They observed that quite a number of names failed to comply with the Portuguese phonological and spelling system. The Ghanaian situation generally conforms to the phonology of the languages in Ghana. The names we encountered whether local or foreign did not show any deviation from the phonology of the language. Socio-culturally, the brand name should not be offensive or have an inappropriate connotation in any of the official Ghanaian languages. Again, the brand name should not convey or suggest a spiritual association or be comparative or superlative in any way.

Generally, most of the names found in the Ghanaian market comply with the socio-cultural norms prescribed here. Occasionally, some may deviate and give names like *MEte Wo Dross* (I will rip off your underwear) which offends the sensibilities of women. The belief system of the manufacturers or some spiritual underpinning is sometimes imprinted in the name of the drug. So, we may have names like *Yesu Mo* Herbal (Jesus, well done) and *Medemafo* Herbal (My redeemer).

These guidelines together with others will serve as the roadmap in our analysis of the names manufacturers of herbal medicines in Ghana assign to their products.

Method

The current study aims at analysing names of herbal medicines in the Ghanaian market. This design is purely descriptive. Akhtar (2016) believes that the descriptive design is used to identify and obtain information characteristic of a particular issue like community, group or people. It can be conveniently concluded that this type of research describes social events, social structure, social situations, etc. Naming is a social activity that can be explored to know the characteristics of a people. The qualitative research design is adopted for this study. Heigham & Crocker (2009) say qualitative research entails collecting basically textual data and examining it using interpretive analysis. Drug names are textual and these are gathered and subjected to analysis.

Two research techniques, namely observations and interviews, were used in data gathering. The researcher relied on interviews with herbal medicine companies and pharmaceutical shop attendants to augment the available data. Every herbal medicine produced in Ghana qualified to be part of the study. The name of the product could be in English or any of the local languages in Ghana., or a combination of both. We were, however, constrained by time and logistical factors so we relied on drugs available in the pharmacy, chemical, and herbal shops in Kumasi.

Taherdoost (2016) opines that it is impossible to collect data from all cases. Therefore, there is the need to select a sample. There are over a thousand herbal drugs in the Ghanaian market so a random sampling method was used to select those drugs that were used in this study. Again, a purposive selection was done to get drugs whose names could be analysed. A 105 drugs were eventually collected on availability basis.

A list of drugs approved by the Foods and Drugs Authority (FDA) for advertisements on TV and radio served as a source of primary data. The work is also based on direct information gathered by personal contact with some manufacturing companies and from local outlets where herbal medicines are sold. The required information designed for the study was observed and recorded with the assistance of the attendants. Some of the interpretations of the names were offered by the companies themselves whereas some were procured through other sources.

Results and Discussion

Most herbal medicines in Ghana treat mainly malaria, *kooko* (piles), and premature ejaculation, or promote sexual enhancement. For instance, out of the 105 medicines used in this study, 87 (82.9%) of them fall in the above category. Within this category, 43 (49.4%) different brands claim to cure malaria. Making a mark for your product in the market through naming cannot be compromised. We analyse the names from the socio-cultural, linguistic and pharmacological perspectives.

The Naming Pattern in Ghana

The names of the herbal drugs accessed in the market are categorized for analysis. We look at the various considerations in the naming patterns of the drugs.

Language Choice

One of the attributes of sociolinguistics is the connection between naming and society. A society is identified through its language. It is quite a common practice in Ghana to name a person with an English name as first name (usually called Christian name) and a local name(s).

This naming practice is replicated in product names. The local name is to give them an identity and the English name is meant to give it a global appeal. In tandem with Akoto (2018)'s classification of language in Ghana, where people prefer to combine English and local name(s) in their naming, we observe that the bilingual approach is mostly preferred in the names of the herbal drugs. Guo and Li (2017) assert that language choice has commercial, branding, promotional, and marketing purposes. Some herbal medicine brands prefer to be linguistically heterogenous by adopting the bilingual approach, mainly Twi, which happens to be the dominant local language in Ghana, and English, the official language in Ghana. Table 1 below shows some examples. The italicized are the local names.

Table 1. Bilingual names

Name	Languages	Literal Meaning
Medoleme Herbal Powder	Ewe and English	I have come out of it
<i>Adom</i> Herbal Mixture	Twi and English	Grace
<i>Otwea</i> Bitters	Twi and English	A curse word
<i>Duapa</i> Bitters	Twi and English	Good tree
Joy <i>TwEdeE</i> Bitters	Twi and English	Blows (fist)
<i>EbEtɔda</i> Bitters	Twi and English	A day will come
<i>Dinpa</i> Herbal Mixture	Twi and English	Good name
<i>Dabi Asem</i> Herbal Mixture	Twi and English	Matter for a certain day
<i>Tupain</i> Herbal	Twi and English	Remove (pain)

The common indicator in these combinations is that the local name is used as the tradename and the nature of the drug such as mixture, bitters or capsules is added to the name. There are, however, some drug names that are monolingual, basically an all-English name or an all-Twi name.

Table 2. Monolingual names

Name	Language
Policini Aduro (the policeman's medicine)	Twi
Time Herbal Mixture	English
Angel Herbal Mixture	English
Herbal Herbal Mixture	English

Within the monolingual naming, it was observed that the all-English names outnumber the all-Twi names. The reason is to have mass appeal locally by reaching out to other non-Twi speakers. Again, since manufacturers aim at the international market, they find it necessary to go all English.

Linguistic Factors

As Sekyi-Baidoo (2019) opines, William (2013) also observes that creation of names is difficult and it involves numerous linguistic tactics. This involves naming with semantic, syntactic, and morphological considerations. This transcends personal names to tradenames and is aptly demonstrated in our analysis of the naming practice of herbal medicine producers.

Semantic Factors

Some names carry some semantic connotations and that's significant in the brand and marketing. The product names and the meanings deduced from the names are illustrated in Table 3 below.

Table 3. Names of semantic value

Name	Description
Bestman Capsules	a distinguished man
<i>Tabea Taakum</i>	adulterated form of tycoon
Ghana <i>Swaga</i> Herbal Powder	Swagger (someone with a swag)
Lawson Delayman capsules	the man delays ejaculation
<i>Osompa</i> tystrong syrup	good service from a strong man
<i>Duapa</i> bitters	good tree (plant)

Some names, apart from identifying the medicine, also have semantic value. The meanings evoked in the names also serve as advertisements on their own. For instance, in the examples in Table 3, '*Taakum*' is an adulterated form of the word tycoon (a business mogul). In the Ashanti Region, the term *taakum* means a guy who is in vogue, has money, civilized and understands the trends. The name of this aphrodisiac is therefore meant to evoke the manliness of men who use it. Thus, if you want to be counted among men, then use it. Delayman, as an aphrodisiac, tells the consumer that he will delay ejaculation. A man with a swag is typically bold and self-assured. In the Ghanaian setting, beyond these attributes, the word connotes being fashionable and understanding the times. Swagga, as an aphrodisiac, therefore, suggests to the consumer that if they take it, they will be energetic, confident before their partners and, as it were, be the man they are expected to be. Again, *duapa* (good tree) tells you the efficacy of the plants used in the preparation of the bitters.

Syntax

Some names are virtually full sentences where the potency and indications of the drug are bundled together in the name. The local names have been italicized. The names virtually say what the drugs will do, not just in a word but in a sentence, although some of them are ellipted or abbreviated clauses. The name carries a lot of meaning with them. For instance, the Ewe *medoleme*, which literally translates "I have come out of it", suggests salvation or deliverance for the consumer. *Ebɛtɔda*, literally translated "A day will come" and *Gyaesu* (stop crying) also suggest hope and give comfort, so does *medemafo tease*, which means "My redeemer lives." The names have purpose not only to

demonstrate their efficacy but also to evoke some psychological relief to the consumer. All these have marketing implications since the name is able to tell the potential consumer what they should be expecting.

Table 4. Names of syntactic value

Name	Literal meaning
<i>Medoleme</i> Herbal Powder	I have come out of it
<i>Fralena</i> stop fever	Fever will be stopped
<i>MÈte Wo Dross</i> Herbal Bitters	I will rip off your underwear
<i>Gyaesu</i> W & P Capsule	Stop crying
<i>EbÈtɔda</i> Bitters	A day will come
Malarigo mixture	Malaria will go
<i>Tupain</i> Herbal	Remove pain (Pain will be removed)
<i>Medemafo Tease</i> Herbal Mixture	My redeemer lives

Phonology

The phonology of a language shapes how things are named by the users of that language. Therefore, the permissible patterns and constraints are influential in naming. For instance, we are able to tell that *Gbedeman* Capsule does not have an Akan origin since the Akan language constraints [gb] in any position of a word. This is, however, possible in Ga and Ewe. Again, we have *Fada Matins* Herbal Mixture. This is manufactured by a catholic priest, Father Martin. However, since the local languages do not have the dental fricative /ð/, the approximate sound /d/ is used. Hence, Father becomes Fada, which is easily pronounceable.

Pa-Kum Capsules is coined from two Twi words which are also onomatopoeic in nature. This medicine is an aphrodisiac for men. Its name Pa suggests instantaneity and Kum is a thud sound that also suggests finishing, taciturnity, or reticence. This name therefore suggests how quick the drug works literally saying less talk but effective action.

Mama-mix Mahoney Malaria Mixture and *Tabea Taakum* Capsules combine alliteration and assonance making the names easily memorable. *Akanayoo Koo* has a rhythmic effect and is therefore likely to stay in the memories of consumers.

Morphology

Antia et al (2006) identify the morpho-syntactic nature of drug names. They observe that manufacturers normally use blending and clipping to encode the attributes of the brand. Williams (2013) says clipping is one of the most creative morphological processes used in drug naming. Creating a name comes with creativity and strategy. The more grammatically formal option for 'malaria killer' would probably be 'Kill malaria', which would have been 'Killmal', but the phonological consideration is made to supersede the grammatical. As indicated by Erlich (1995), a drug name must sound medicinal and appealing. The syllabification in 'Malakill' is more resonating than Killmal. Killmal doesn't sound drug-like. Frujus tells the potential consumer that the drug has a mixture of fruit

juice in it Some other blended names are: Osei Herbal Malamix, Zack Malamix, and Herbaquin.

Table 5. Morphological considerations

Name	Type	Full Rendition
Frujus Essentia Herbal Mixture	clipping/blending	Fruit juice
Sibi Malacure	blending	Malaria cure
Imboost Herbal Mixture	blending	Immune booster
Link Malakill mixture	blending	Malaria killer
Malahela Mixture	blending	Malaria healer
Adutwumwaa Malamix	blending	Malaria mixture
Typhofa – 202	blending	Typhoid fever

Pharmacological Factors

Producers of herbal medicines are also cognizant of the pharmacological dimension in naming of drugs. They therefore approach the naming from the point of view of pharmacology, which is a crucial element in drug naming.

Descriptive Naming

In many cases, naming conventions aim to provide descriptive names that give information about the drug being named.

Table 6. Names that describe type of product

Label	Frequency	Percentage (%)
Mixture/mix	50	47.6
Bitters	35	33.3
Capsules	10	9.5
Powder	3	2.9
Tea	2	1.9
Syrup	2	1.9
Lozanges	1	1.0
No indication	2	1.9
Total	105	100

Part of brand naming is to include the product's description in the name. Within the linguistic formula for naming the drugs observed, three labels are dominant: bitters, mixture, and capsules. Out of the 105 drug names analysed, 50 of them had either "Mixture" or "Mix" added to the name, 35 had "Bitters" added, 10 had 'capsules', 3 had 'powder', 'syrup' and 'tea' both had 2 entries, and 1 had 'lozenges'. Only 2 of them had no such indication. Thus, the drug's description is usually part of its name. In an interview with some of the shop attendants, it was realized that the difference between 'mixtures' and 'bitters' is not really clear to consumers, but 'capsules', 'powder', and 'tea' are easily distinguishable.

Composition/Ingredients

This has marketing implications since a mention of the composition or ingredients and indications of the drug within the name draws attention to the purpose and efficacy of the drug.

Table 7. Composition of drug in the naming

Name	Ingredient
Sparnis Garlic Mixture	garlic
Nyadua bitters	Nyamedua (alstonia boonei)
Mama-mix mahoney malaria Mixture	honey
Ronak Cold & Flu Orange, Lemon, Ginger & Honey	orange, lemon, ginger & honey
Frujus Essentia Herbal Mixture	fruit juice clipped and blended as frujus
Herbaquin	quin (from the quine family)

Here, the names of the drugs tell the consumer what ingredients are used in the preparation of the products. *Nyadua* is the shortened form of *Onyamedua* (*alstonia boonei*), a very popular plant known for curing rheumatic and other pains. *Frujus* indicates the product has fruit juice. Ghanaians know of chloroquine and amodiaquine as drugs for the treatment of malaria, and so calling a drug *Herbaquin* gives an indication of herbs that work like any member of the quine group. Again, most Ghanaians are already familiar with the medicinal value or efficacy of garlic, ginger, honey, and tiger nuts, and therefore the inclusion of them in the names serves a marketing purpose.

Indication/Treatment

We also observe that indications of the drugs (the diseases the drugs treat) are sometimes included in the naming.

Table 8. Names that suggest treatment/indications

Name	Indications
Plasmox herbal mixture	malaria
Uriel Flat Tummy Herbal Mixture	flat tummy
Prostafit Herbal	prostate ailments
Prostalinic Mixture	prostate ailments
Tupain Herbal	pain
Duffy's Ohemaa Menstrual	menstrual issues
Ronak Cold & Flu-Orange, Lemon Ginger and Honey	cold and flu
Adom Kooko Aduro Bitters	kooko (piles)
Mama-mix mahoney malaria Mixture	malaria
Sem Stroke	stroke

Plasmodium (branded as Plasmox) is the genus of the class of Sporozoa that includes the parasite that causes malaria. The name indicates a cure for malaria. 'Prostafit' (Prostate+fit) gives an indication of the 'fitness' of the 'prostate' as the outcome of the use of the drug. *Adom Kooko Aduro* (literally translated as 'medicine against piles') is easy to associate with the treatment that it offers. '*Duffy's Ohemaa Menstrual*', like the others,

has a name that already tells what the drug is used for. This is in concert with the prescription of Pharmaceutical Product Branding (2023) which advocates that a strong brand name should be reflective of the product's benefits or therapeutic area. This makes advertisement quite easy and promotes marketing too. The herbal medicine shop attendants interviewed in this study were of the opinion that, apart from the advertisement in the media, the fact that the indications of the drug form part of the name makes it easier for customers to understand the use of the drug. The only clarification potential consumers will seek from them is on how efficacious the drug is in treating the indicated ailment.

Some names also contain pharmacological instructions. For instance, the name *Typhofa 202*, apart from indicating typhoid fever, also tells the consumer how to administer the drug. That's two in the morning, none in the afternoon, and two in the evening (202). *Genecure 442* also indicates to the consumer to take four in the morning, four in the afternoon, and two in the evening. 442 is also a tactic and formation in football which is common to the populace. This would therefore resonate with the people in terms of marketing.

It can be seen that contrary to the Ghana FDA guidelines on pharmacological factors in naming, which states that the brand name should not convey a promotional message concerning the therapeutic and/or pharmaceutical characteristics and/or the composition of the product, most of the names of the herbal drugs have names that have all these features.

Gender

One of the pharmacological considerations in administering drugs is to look out for the gender restrictiveness of the drug. Some of the names of the herbal drugs in this study are either suggestive of gender specification, or aptly add gender in their nomenclature.

Table 9. Names indicating gender

Name	Gender
Zibuck Ladies Herbal Powder	female
Duffy's Ohemaa Menstrual	female
Zibuck Men's Herbal Powder	male
Freshman Capsules	male
Jagaman Capsules	male
Sibi Men's Capsules	male
Sem Vagi Clean Suspension	female

From the above, we observe words like 'ladies', 'man', and 'men's' added to the names clearly showing which gender each one is for. *Duffy's Ohemaa Menstrual* is suggestive of gender because it has a double indication of female inclination. *Ohemaa* means queen (a title reserved for women) and 'menstrual' is also associated with females. Names like *Sem Menstrual* and *Sem Vagi* (vagina) *Clean Suspension* have indirect references to women-only use. Other examples include: *Joy Dadi* (daddy) *Bitters*, it tells it's for men while *Joy Mummi* (mummy) and *Joy Mmaah* (women) *TwEdeE Mixture* show they are for

women. Others are more overt in their gender specification. For example: *Sibi Men's Capsules*, *Ziipman Capsules* and *Waherb Men Capsules* indicate men's use.

Socio-linguistic Factors

Socio-linguistics deals with language and society. Names can be given as a means of showing origin, legacy and family lineage. Hence, we have drug names that bear the company name, which mostly also bear manufacturer's name, and some commemorative names or appellatives. These also give identity to the brand, maintain family legacy.

Origin of the Product

Some names tell the country or society where the product is manufactured. This choice of names is also significant for identity.

Table 10. Names that indicate the origin or production location of product

Name	Origin
African Origin Bitters	Africa
Ghana Swaga Herbal Powder	Ghana
Ghanaman capsules	Ghana
Krobo fever eduro	Krobo

When it comes to herbal medicines, the origin of the product is significant. There is a tacit belief that the best of herbal medicines are what are procured indigenously. The term Herbal Medicine literally translated in Twi is *ahaban aduro*, but among the Akans (mostly Twi speaking) the term *abibiduro* (African medicine) is widely used. TV and radio commercials on herbal medicines usually add the expression *Wei y3 abibiduro ankasa* (This is truly an African medicine). Identifying the drug as an authentic local product is key. *African Origin Bitters* identifies it as African; *Ghana Swaga Herbal Powder* also shows it's a Ghanaian product. Krobo is a tribe in the Eastern Region of Ghana and therefore the name *Krobo Fever eduro* suggests an association with the tribe or the place. All these have identity, authenticity and acceptance implications culminating in marketing ramifications.

Product Names that Reflect with Company Names

Here, the name of the product is taken from the name of the company. Different word formation processes are utilized using the name of the company. Some have full company names attached whereas others have the company name either only clipped or clipped and blended to form the name. Some product names are procured from the name of the company. Various word formation processes are adopted to arrive at these names. Some take the first name of the company and add the product type or indication to it as seen in Roc Care Clinic with Roc Mixture. Others employ some clipping and blending like Vic Dank Healthcare for Lividank Capsules. Some utilise the full identity name of the company to arrive at the name of the product. For example: Theresah Mensah Herbal Centre in Theresah Mensah Herbal Mixture.

Table 11. Product name from company name

Name of Company	Name of Product	Formation Type
Sabash Herbal Centre	Bash Herbal Bitters	clipping
Zefu Food Limited Co	Zefirm Tea	clipping/blending
Wagyeme Herbal Centre	Waherb Garlic Capsules	clipping
Vic Dank Healthcare	Lividank Capsules	clipping/blending
Three Brothers Herbal Centre	Three Brothers Koo Mixture	full name
Theresah Mensah Herbal Centre	Theresah Mensah Herbal Mixture	full name
Roc Care Clinic	Roc Mixture	partial name
Top Herbal Clinic	Top Fever Syrup	partial name
Vaniva Herbal Centre	Vaniva Herbal Mixture	partial name

Legacy Names

Some of the products are named after the manufacturers themselves. The naming pattern has been categorized into four: those that use first names, those that use surnames and those that use both names.

Table 12. Legacy names

Product Name	Type
Agbeve Herbal Mixture	surname
Lawson Herbal Mixture	surname
Obeng Herbal Mixture	surname
Adutwumwaa Bitters	surname
Ade's Date Syrup	first name
Diana Herbal	first name
Akos Herbal Mixture	first name
Fada Matins Herbal Mixture (Father Martin)	title plus first name
Dr Alfred Capsule	title plus first name
Theresah Mensah Herbal Mixture	full name
Solak Herbal Mixture	acronym of full name

According to Roper & Parker (2006), brand names are usually manufacturers' own surnames, for example Twinning's Tea, McDonald's, and Ford Motors. Most of the products we studied named after people are from the surnames. For example: Lawson, Obeng, Agbeve are surnames in Ghana. However, in Ghana, it is quite common to have people addressed by their title and first name. Hence, we have Madam Catherine Tonic, Fada Matins (Father coined as Fada) and Dr Alfred. Thus, in concert with the terms of address among Ghanaians, we have some drugs named with title and first names as shown in the table above.

Solak Herbal Mixture is taken from the manufacturer's name which has undergone acronymization. Solomon Appiah Kubi is acronymized to SOLAK and is also used as part of the company's name, Solak Biochemist Natural Clinic.

Summary

The study reveals that drug names are not arbitrary and that each name is strategically given with socio-cultural, language, pharmacological considerations to arrive at a marketing end. The naming of herbal medicines within the linguistic landscape of Ghana follows the naming pattern system of most Ghanaian communities where the bilingual combination is the preferred choice. The nature of drug as bitters, mixture, tea, powder, etc. is mostly added to the names. Equally important are the linguistic factors i.e. morphological, syntactic, semantic and phonological factors in naming. There are pharmacological considerations in naming drugs where drug indication, composition and even dosage can all be encompassed in the naming. We also observe that legacy names and company names, whether for commemorative purposes or as appellatives are sometimes added to the names of the drugs.

Conclusion

The study sought to look at pharmacological onomastics with special focus on herbal drugs in Ghana, a country rich in diverse traditions of herbal medicine. Our research relied mainly on drugs displayed in pharmacy, chemical and herbal shops in Kumasi and some from the list of approved drugs by the Food and Drugs Authority. We examined the sources, classifications, and functions of these names, as well as their marketing implications. We found that the names of herbal drugs in Ghana reflect various aspects of the naming culture, geography, and beliefs of the people who manufacture them and, to some extent, those who use them. They are derived from different languages, such as Akan and Ewe and English, and sometimes a combination of elements from more than one language. The names can be descriptive, indicative, suggestive, or prescriptive, depending on the purpose and intention of the namer. It was observed that the names are also influenced by marketing factors. The names of herbal drugs in Ghana can provide valuable information for pharmacological studies, such as the identification, composition, indication, dosage, preparation, and administration of the drugs.

We conclude that pharmacological onomastics is a useful and important tool for understanding and developing herbal drugs in Ghana and possibly other countries with similar traditions. We recommend further research on this topic to explore the diversity and complexity of the names of herbal drugs in different communities outside of the domain of Ghana. We also suggest collaboration and communication between traditional healers, pharmacologists, botanists, linguists, and other stakeholders to ensure the standardization of names of herbal drugs in Ghana. Comparative studies are also recommended to be carried out on the naming systems of orthodox medicines and herbal medicines in Ghana.

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