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A LINGUISTIC ANALYSIS OF SELECTED ANTIBIOTIC INFORMATION LEAFLETS

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ABSTRACT: *A linguistic analysis of selected antibiotic information leaflets examined the language structures in composing the information of both manufacturing and marketing drug companies in Nigeria. These companies on which their leaflets are studied are Emzor, Jawa, Cika, Transglobe and Taylek. A descriptive design was adopted for the study and the models of Crystal and Davy (1985) and Leech and Short (1981) were used toanalyse the pattern of interlocking grammatical systems, from the smallest units of words and phrases to larger unit of sentences. The study examined and analysed syntactic structures in the formation of linguistic sentences used on the information leaflets, which varied in different sentence types that provide meaningful explanation about the chemical compositions of the produced drugs. Relatively, it determined the sense relations of the connected sentences and the graphological features contained on the leaflets. Conclusively, it was stated that the language used in the construction of sentence is complex in nature due to over use of chemical terms. It was recommended that leaflets should be written in simple sentence devoid of complexity for drug user's comprehension.*

KEYWORDS*:* Linguistic Analysis, Antibiotic, Manufacturing, Drug, Information Leaflets

INTRODUCTION

The use of language among humans has become paramount in facilitating communication and information sharing by its users especially in written forms where prospective readers are expected to read textual contents. Crystal (2008) is of the view that language is used every day generally at most specific level referring to the concrete act of speaking or writing in a given situation, such as the written information enclosed in drug products which are coded in a language. As a system of arbitrary symbols, it has well defined characteristics used for human communications which could be in speaking or writing process to relay meanings (Wardhaugh, 1972).

Linguistic analysis attempts to analyse the natural language put into use by human beings for sharing information whether spoken or written. It focuses on the existence and provision of formal description of language used as a tool for communication among humans; it systematically provides linguists with the ability to make inquiries in order to explore its structural use grammatically in relation to its historical development, and its communicative competence (Finegan, 2012).

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Human language of whatever form is based on description in order to look at the organisation and level of properties forming its structure. Language description has to do with forming meaningful texts communicatively within a specified contextual use. The description involves generating linguistic elements where information about certain facts is contained in a written form such as information leaflets found in medicinal products (drugs). Blair (2002) opines that Information retrieval, primarily, of documents or textual material is fundamentally a linguistic process. At the very least it must describe what we want and match that description with descriptions of the information that is available to users.

Drug information leaflets are written texts on papers, and are contained in medical products. These leaflets are primarily inserted in the products package by manufacturers to provide users with accurate and adequate information about the drugs purchased. The textual contents of these leaflets are organised by medical physicians to give drug administration guide against abuse.

Interestingly, linguistics cuts across every existing discipline to describe a natural language used in such a field so that it makes analysis scientifically to provide insights on how language works. Linguistically, the essence of language analysis is to identify symbolic features formed into stringed sentences to share information in a communication process. Written drug information leaflets provided by clinicians may be regarded as a specific instance of the genre of health-care information materials, with drug information leaflets as a subset. The stabilized communicative event with a known purpose, exemplars of a genre will exhibit patterns of similarity in terms of 'structure, style, content and intended audience (Swales 1990). Genre analysis research tells that readers' reception of a text will be affected by their predictions of those patterns.

This structured information is sometimes ambiguous with few words and numbers used to communicate to the users or readers which may not be explicit. It is against this background that this study investigates the language of medically produced text that are meant to give information on drugs which are to be accessed by prospective consumers of the products in order to find out why such a language is structured into those texts to communicate information

An analysis of drug information leaflets is a category that falls under the coverage of linguistic studies. It aims at looking into the textual content of how information about drugs are arranged in words to relate what prospective users should do and how they should take medications. Drugs information leaflets are described as too technical to the comprehension of those who are meant for. Blair (2002) is of the opinion that although there are complexities involved in referring to authors, document types, or other categories of information retrieval, context is most problematic activities in information retrieval: the description of the intellectual content of information items such as leaflets and written texts refer only to the description and retrieval of documents. The description of intellectual content can go wrong in many obvious ways. It may describe what is incorrectly; people may describe it correctly. In such general terms that its description may be correctly, but misinterpret the descriptions of available information, and thereby match our description of what we want incorrectly. From a linguistic point of view, we can be misunderstood in the process of retrieval in many ways.

On the drug leaflets, there are abbreviations, technical terms, different phrase and clause structures that constitute barriers to the easy coding of the information relayed. The study investigates the syntactic, lexical and graphological contents of antibiotic drug information leaflets to determine why this information is structured in such arrangement.

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Accessing information on drug leaflets is processed by users after reading the enclosed papers attached to the products. Such a context depends on how the user understands the content before administration or taking the drugs. To this effect, this study examined the structural contents of written information on drug leaflets which are intended to guide users about safety medication procedure and dosage. Similarly, the study will benefit ESP practitioners and students in that it will provide a guide for further related investigation in subsequent studies so that more ideas could be developed on how to relay information on drug leaflets linguistically.

The study investigated the linguistic analysis of antibiotic drug information leaflets enclosed in drug products by manufacturers to communicate procedures for usage by intending consumers. It focused on the linguistic analysis of Leaflets inserted in drugs packages produced in 2013, 2014 and 2015 antibiotic information leaflets contents of Emgyl, Emzoclox, and Emtrim from Emzor drug company; Jawatrim, Jawagyl, and Jawaclox from Jawa drug company; Cikaclox, Cikacillin, and Cikamox from Cika drug company; Erythromycin, Cipfast-TZ, and Dalacap-300 from Transglobe drug company; Amoksiklav 375mg, Amoksiklav 2x Oral suspension, and Amoksiklav 600mg from Taylek company..

REVIEW OF RELATED LITERATURE

Language is the instrument of human communication through which idea, information etc are shared for understanding of some perspectives in a given situation. Goldstein (2008) looks at Language as a system of communication using sounds or symbols that enables people to express their feelings, thoughts, ideas, and experiences to one another through words. That is to say language either used in spoken or written form serve a great role in the realm of human communication invariably; a reader of any written information could have access to effective ideas about life issue when a language is put to use.

Aziz (2011) views language as a tool which is used to perform various tasks and reported that Geoffrey Leech identified the micro-functions of language such as naming things and communicating. The opinion is in the interest of this study as it is directly related to the construction of drug leaflets. This implies that drug leaflets explore language resources such as nouns (to name medicinal products), adjectives (to identify feelings of patients or situations that may require the use of drugs) and verbs (to indicate actions or instructions to be followed). Jain (2014) points that language could be used to perform a wide range of functions based on the purpose of its use such as regulative and informative functions. This is relevant to this study because drug leaflets have been described as informative and regulative.

Bilash (2009) posits that what is spoken or written is for a specific purpose (such as, information and instructions in drug leaflets) and that we use language to fulfil that purpose known as language function.

Clereham, Buchbinder, and Modie (2005) point out that language features in text could be written in an assertive, directive, conciliatory and or collaborative way. This, in a way is a reflection of the features of drug leaflets which should be investigated. Akin to this position, Peterson (2009) opines that the words used to convey the information about a drug to a patient is crucial because it is expected to contain good, plain English with the use of direct, short sentences with as few complex phrases and jargons as possible.

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Drug Information Leaflets and Genre

Language as a natural phenomenon is important with functional communicative purposes such as information procession contained in patient information leaflets (PIL). It specifies the genre of a particular text composed from a language to the readability of prospective users. Raynor (2007) explains that information communicated to patients is often linked to ensuring informed decision-making, linked to the idea that informing patients aims at optimising the use of a medicine for safety. Invariably, language provides and performs a communicative means through well-structured text from leaflets enclosed to help users.

Language genre as posits by Candlin (1993) has traditionally been a literary concept, has recently become a popular framework for analyzing the form and rhetorical function of non-literary discourse. Therefore, its analysis aims at identifying typical characterization, conventional aspects and structural elements of any genre-specific text in an attempt to find theoretically adequate and pedagogically useable patterns and functional forms (Ghaemi and Sheibani, 2014). Wided (2010) posits that language used in the medical professions has moved from being characterized in terms of syntactic or lexical choices to characters of the textual presentation and formulaic requirements of the different contexts as it extends to drug users.

It is noteworthy that language used on drug leaflets turns out to be a specific genre because of the nature of texts identified to this effect. Texts of the drug information provide headings or subtitles to help users find information quickly and easily, simple instructions, and explanations on what consumers need to do. This makes the patient information leaflets be of a different genre on its own. Wided (2010) adds that leaflets are written information about a drug which might be expected to include identifiable segments of text which provide instructions on drug dosage, information regarding monitoring, as well as accounts of its potential benefits and side effects all described to the user.

Theoretical framework

Crystal and Davy (1985) provided a model for the description of language based on levels and how it is interrelated within a given text. The model takes into consideration the features found in a spoken or written text singled out from a flow of language in terms of words, parts of word and their sequential appearance in text with a linguistic description. In relation to text description, Leech and Short (1981) proposes another similar model that analyses a text ranging from lexical categories such as nouns, verbs, adjectives, adverbs; grammatical categories such as phrases, clauses, and sentences with close attention to textual cohesion in the content. This describes the linguistic patterning of elements used in text organizations stylistically and also accounts for the graphological features obtained in the text.

The above models were used in analysing drug leaflets created for passing information to patients.

METHODOLOGY

The study adopted a descriptive research design which associates with words, language and experiences rather than measurements, statistics and numerical figures.

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The corpus of the study are written linguistic texts inserted in drug manufactured products known as the drug information leaflets that accompany each product meant for a given consumer as notices about what is packaged. Three different leaflets were selected thus: Emgyl, Emzoclox, and Emtrim from Emzor Drug Company, Jawatrim, Jawagyl, and Jawaclox from Jawa Drug Company, Cikaclox, Cikacillin, and Cikamox from Cika Drug Company, Erythromycin, Cipfast-TZ, and Dalacap-300 from Transglobe Drug Company, Amoksiklav 375mg, and Amoksiklav 2 x Oral suspension, and Amoksiklav 600mg from Taylek Drug Company.

The corpus of the study was selected based on their communicative value as written texts and as external contents of language for passing information. Sinclair (2005) provides two types of criteria of text selection. The first is the external criterion which takes into consideration the communicative function of a text. As applied to this current study, it captured the values of information contained in the selected texts from the leaflets written for the benefits of drug users. The second is internal criterion which reflects in details the use of language to relay information to the reader. Sinclair emphasizes that corpus should be constructed exclusively on external criteria that are the contents of a corpus. Sinclair's opinion is used to describe the linguistic reality rather than to alter it. The corpus was also selected based on availability and accessible at the disposal of the researcher at pharmaceutical stores, chemists, and from drug users.

Sinclair (2004) points out that a representative dimension of corpus requires a collection of pieces of language text selected according to external criteria to represent a whole from language variety as a source of data for linguistic research. A total of fifteen (15) drug leaflets were collected from drug pharmaceutical stores, medical outlets (chemists) and from patients that use drug products of Emzor, Jawa, Cika and Transglobe, and Taylek drug manufacturing companies to make a representation of the corpus.

Accordingly, the model of Crystal and Davy (1985) and Leech and Short (1981) were used to analyse the pattern of interlocking grammatical systems, from the smaller unit words, to the larger units of sentences. Graphological and semantic features obtained from the leaflets were also analysed.

Data Presentation, Analysis and Discussion

The data collected from the orthodox antibiotic drug information leaflets were analysed in line with the established objective framework of Crystal and Davy (1985), and Leech and Short (1981) which analyses texts in lexical categories and sentences including their graphological features used in organizing the textual contents.

Textual Analysis of Data collected

The data for the study were presented and analysed based on the syntactic, lexical and graphological features found in the antibiotic drug information leaflets. The following were found:

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Simple Sentences

Text I

"Maximum concentrations occur in the scrum within 1 to 2 hours after administration" (Emgyl - Emzor) [(1)]

TextI above is an excerpt from Emzor Company which gives information on one of its drugs (products) to prospective consumers. The text gives information in simple sentence which carries one idea for explicitness. It is made up of only one clause which is independent. The message is clear and well understood, because it expresses an idea on the drug called "Emgyl" whose concentration serum of absorption and excretion occurs within 1 to 2 hours after absorption. The sentence expresses one idea, and it also functions as a declarative statement, expressing what the manufacturer intends and deem it fit should be made known to the users.

Compound Sentences

The drug information leaflets also have sentences in the instructions given, containing two or more independent clauses to convey two or more ideas in a single structure bound together by a conjunctive device.

TextIII

Each white tablet contains 200mg of metronidazole BP and each yellow tablet contains 400mg of metronidazole BP (EMGYL – EMZOR) [(5)]

The compound sentence in **TextIII** above tells about the chemical content of "Metronidazole" in the white tablet (one idea) and the chemical content of yellow tablet of the same "Metronidazole" which is measured about 400mg (the second idea). The conjunction "and" is used in connecting the two simple sentences on the EMZOR compound sentences.

Text IV

Cikacillin is relatively acid suitable in gastric secretion and well-absorbed following oral administration producing high scrum and urine concentrations (CIKACILLIN - CIKA) [(6)]

The compound sentence in **Text I1** above which is found on CIKA leaflets has two simple sentences that are joined together by the conjunction "and". It carries two independent ideas. The drug information leaflet writer uses the compound sentence to convey multiple ideas to the users for better comprehension.

Complex Sentences

The syntactic structures of complex sentences entail having one main clause and two or more dependent or subordinate clauses to make up the sentences.

Text V

For patients with lesser degrees of impairment, no dosage reduction is recommended (*Emgyl - EMZOR*) [(8)]

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Text V above is a good example of a complex sentence where subordinate (dependent) clause gives or adds information to the main (independent) clause. The dependent clause is from "For patients with lesser degrees of impairment…" on EMZOR leaflets give additional information to the main clause, it precedes the main clause "…no dosage reduction is recommended." It gives the users more understanding of information on the prescription of drugs they intend using.

Lexical Features of Drug Information Leaflets

Lexical features are parts of speech that are used as separate words on the drug information leaflets, consisting of the chemical nouns, lexical verbs, adjectives, adverbs, and conjunctions.

NOUNS

These are names of chemicals used in drug compositions.

> **Text XI**
>
> *Tinidazole is a nitroimidazole which has antimicrobial action against microaerophilic Protozoa… (Cipfast-TZ - TRANSGLOBE)* (11)

The nouns "Tinidazole and nitroimidazole" in TextIII above are chemical names of drug elements that might not be known by user. It tells the reader that each drug has a composition of so many chemicals put together in manufacturing a medicine for curing ailments.

Adjectives

They are lexical words that give specification or descriptions of nouns.

> **Text XVII**
>
> *Cikalox is effective in the treatment of the following bacterial infections (Cikaclox - Cika)* (17)

The adjective "bacterial" used in Text III above specifically qualifies or modifies the noun 'infections." The identified adjective shows the description of the infections that are listed after the sentence.

Adverbs

These are words that describe verbs, adjective and another adverb in a text.

> **Text XX**
>
> *Amoksiklak is excreted in urine mainly unchanged; clavulanic acid appears to be extensively metabolized excreted principally in urine and partially in the feces and in the exhaled breath. (Amoksiklav - Taylek)* (20)

A number of four (4) adverbs are used in the text. These are "mainly, extensively, principally, and partially." The adverb "mainly" modifies the verb unchanged, "extensively" modifies the verb metabolized, "principally and partially" modifies the verb excreted, and the adverb "partially" modifies the adjective exhaled placed before the noun breath.

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Conjunctions

These are lexical words that are used for connecting grammatical sentences and other linguistic elements in texts.

Text XXII

Both amoxicillin and clavulanic acid are excreted in urine (Amoksiklav 2x Oral Suspention - Taylek*)* [22]

Here two prominent chemical names are used in the composition of the drug joined together by the means of a conjunction "and". The conjunction states that all chemical components are equally excreted in urine.

Graphological Features of Drug Information Leaflets

The graphological features of the selected drug information leaflets have to do with different styles of their products to their prospective consumers. Different graphological features are used in various descriptions such as bold and high shed written captions, capitalizations, and abbreviations.

Text XXV

Use of Capital Letters

EMGYL - BRAND OF METRANIDAZOLE B.P,

EMTRIM - BRAND OF CO-TRIMOXAZOLE B.P (EMZOR) [25]

All these are written in capital letters and bolded in a rectangular highlighted background as company style. The captions of the drug and chemical names above are written in catchy style to attract the attention of the reader about the brand chemical names of the Emzor product. A hyphen is used to separate between the brand name of the product (EMZYL) and the chemical name (MERTANIDAZOLE B.P). This is to indicate that the chemical name is included in the product name.

Use of Colons

There have been the uses of colons against subtitles for giving more xplanations and emphasis on the identified titles.

Text XXXI

COMPOSITION: Each film coated tablet contains: Erythromycin stearate B.P equivalent to Erythromycin 500mg

PHARMACOLOGY: Pharmacodynamic: ATC: code: J01FA01 Erythromycin exerts its antimicrobial action…

The colons (:) in the text above provided additional background information against each of the titles placed. In "Composition: Each film coated tablet contains: Erythromycin stearate B.P equivalent to Erythromycin 500mg" colon is used twice to show a transition in between the lexical elements for descriptions from the drug composition to what the contents are, then to

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the chemical name of the identified product. In "PHARMACOLOGY: pharmacodynamic: ACT: code: J01FA01 Erythromycin exerts its antimicrobial action…" colon is used four times in between the medical description, pharmacology which is the branch that studies drug administration and effects of the name product of erythromycin with its antibiotic action.

Use of Hyphens

These are horizontal lines shorter than the dash that are used to make separations between words.

Text XXXII

INDICATIONS

Cikaclox is effective in the treatment of the following bacterial infections:

- *Respitatory Tract Infections (Upper and Lower)*
- *Ear, Nose, and Throat infections*
- *Septicaemia, Endocardotos and Orthopeaedic infections* (Cikaclox - Cika)[32]

Here on this drug leaflet, the hyphens are used as number listing points for infections treated by the drug "Cikaclox." The hyphens are seven (7) in number, itemizing each of the seven listed infections separated. They (hyphens) are to the effect that the diseases mentioned are written differently to help the reader to easily identify the medical problems Cikaclox treats.

Use of Full Stops (Periods)

Full stops are punctuation marks for marking the end of sentences in any written passage. But on this antibiotic information leaflets, they are used as features of graphological purpose as in text 33 below:

Text XXXIII

Uncommon side effect

These may affect up to 1in 100 people

. *skin rash, itching*

. *raised itchy rash (hives)*

. *feeling sick (nausea): especially when taking high doses*

. *vomiting*

. *indigestion*

. *dizziness*

. *headache*

(Amoksiklav 600mg - Taylek) [33]

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As seen above, the full stops are used in seven (7) different places as listing points to itemize the possible side effects of taking Amoksiklav 600mg which is uncommon in a person among hundred. Graphologically, the full stops are bolded to differ from the normal way in which they are used to mark the end of sentences in a text.

CONCLUSION

The study examines language constructions on information leaflets which drug companies communicate to users on the drugs, because language functions as a communicative tool in sharing cognitive knowledge for communicative competence during drug administration. Contextually, companies use language to express ideas.

In the data analysis conducted, most information conveyed on the leaflets are composed and expressed in simple, compound, and complex, declarative, or imperative sentences. The imperative sentences are more of instructions and commands as to how the drug products should be administered to a patient or by a patient. The lexical features identified ranged from nouns (the words for naming chemicals in the drug composition), the adjectives as lexical words for descriptions, the adverbs for specifying the modified verbs and adjectives, while the conjunctions served as connective devices for joining sentences and chemical nouns on the leaflets. All drug leaflets are said to have graphological features that are mostly common as appeared on the leaflets like the words capitalization of chemical names, the bolding of chemical names and the subtitles. Emphases are placed on capitalizations which are mostly used as headings of the leaflets in complete sentences to indicate strong warnings given to drug users against misuse. Based on these findings, the study recommends that antibiotic drug information leaflets should be written in simple sentences for better understanding of users in order to avoid ambiguity in meaning of sentences.

REFERENCES

Aziz, M.S. (2011). *Functions of language*. http://linguisticslearnerblogspot.com/2011/10/functions-oflangaugehtml Accessed 7 July, 2015.

Bilash, O. (2009). *Functions of language* http://www.sduc.ualberta.ca/staff/Olenka.bilash/best%20of%20bilash/functionsof%20lang.htm Accessed 7July, 2015.

Blair, D. C. (2002*).* "Language and representation: Information retrieval and the philosophy of language." *Annual Review of Information Science and Technology, University of Michigan.*

Candlin, C. (1993). ESP in the workplace and the community: Discourse, social change and the impact on the ESP teacher. Paper presented at the annual RELC Seminar, Singapore.

Clereham, R, Buchbinder, R., and Modie, J. (2005). "A linguistic framework for assessing the quality of written patient information: its use in assessing methotrexate information forrheumatoid arthritis." The patient information leaflet: *Text and Talk 20 (3): 2005.334-344.*

Print ISSN: ISSN 2055-0820(Print), Online ISSN: ISSN 2055-0839(Online)

Crystal, D. (2008). *A Dictionary of Linguistics and Phonetics*. London: Blackwell Publishing.
Crystal, D. and Davy, D. (1985). *Investigating English style*. New York: Longman.
Finegan, E. (2012). *Language: Its structure and use*. London: Thomas Wadsworth.
Ghaemi, F. and Sheibani, R. (2014). Genre-based analysis of English Patient information leaflets (PILs). *International Journal of English Language and Linguistics Research*, Vol.2, No, 2, pp. 50-55.
Goldstein, E. B. (2008). *Cognitive Psychology: Connecting Mind, Research, and Everyday Experience*. Wadsworth: Thomson.
Jain, T. (2014). *What are the functions of language?* http://www.preservearticles.com/2011082611895/whatare-the-functions-of-language-html. Accessed 7 July, 2015.
Leech, G. and Short, M. H. (1981). *Style in Fiction: A linguistic introduction to English prose*, London: Longman.
Peterson, J. (2009). *Drug information leaflet?* http://www.massagebyben.com/articles/rss.php?rss=272. Accessed 7 July, 2015.
Prescriber, 18 (2), 60-62.
Raynor, D. T. (2007). The importance of medicines information for patients,
Sinclair, J. (2004). "Intuition and annotation - the discussion continues". Advances in corpus linguistics. Papers from the 23rd International Conference on English Language Research on Computerized Corpora (ICAME 23). Aijmer, K and Altenberg, B. (Eds.) Amsterdam/New York: Rodopi.
Sinclair, J. (2005). Corpus and Text - Basic Principles. ed. M. Wynne. *In Developing Linguistic Corpora: a Guide to Good Practice*, Oxford: Oxbow Books
Swales, J. (1990) *Genre Analysis: English in Academic and Research Settings.* Cambridge University Press, Cambridge.
Wardhaugh, R. (1972). *Introduction to Linguistics Science.* New York: York Service Inc.
Wided, B. (2010). *Modality in English, French and Arabic Biomedical Discourse: A Contrastive Study of Drug Information Leaflets. A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Applied Language Studies.* Mentouri University – Constantine, People's Democratic Republic of Algeria. http://bu.umc.edu.dz/theses/anglais/BOU1192.pdf. Accessed 19 July, 2017.

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