

Jargon Language Used By Iraqi Medical Staff: A Linguistic Study

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Abstract: The present study attempts to investigate the terminology that is used in medical field in Iraq and how these terms are undergone changes by Iraqi medical staff (IMS). The data of the research are collected directly from the members of medical field in Karbala city. The study aims to analyze sample of medical terms used by IMS in hospitals linguistically on two levels (i.e. morphological and phonological) to find out whether there are linguistic changes on these two levels or not and to find on which level these terms are changed more, the study aims to explore the types of morphological and phonological changes. Finally the study attempts to discover whether these changes comply some linguistic rules or not. To achieve these goals, a qualitative data analysis is adopted in the present study to analyses these terms morphologically and phonologically. The results show that morphological changes are the major changes on these terms. These foreign words and terms are undergone some linguistic changes to meet the same rule of the language or the dialect in which they are used.

Key words: morphological changes, phonological changes, Iraqi medical staff,

I. INTRODUCTION: Medical terminology is a very complicated language that deals with the human body, its health, and its treatments. This matter requires a special terms, most of them are descended from Greek and Latin. Using this language or these terms by non-native speakers leads to some difficulties for both the speaker and the hearer especially when the former is from the medical staff while the latter is not. The significance of the study lies in making the outsiders of medical field know more about these changed terms. IMS use the English medical terms in a way makes the hearer (i.e. the patient and his/her companions) confused and do not understand what the member of IMS means.

II. Literature Review: Human beings use language to communicate, exchange information, teach and learn (including learning another language), express feelings and thoughts, tell lies and jokes, persuade, and so on (Håkansson and Westander, 2013: 11). According to Wardhaugh and Fuller (2015: 6), all languages exhibit internal variation, that is, each language exists in a number of varieties and is in one sense the sum of those varieties. Wardhaugh and Fuller defined variety as "a general term for a way of speaking, this may be something as broad as Standard English, a variety defined in terms of location and social class, such as lower-class New York City speech, or something defined by its function or where it is used, such as legalese or cocktail party talk". It is important to know that a member of speech community can be a good speaker of more than one variety and has the ability to use them in perfect way (Bauer, 2002: 71-72). In addition he can shift from one variety to another without any conflict.

The scope of varieties of language includes language, colloquial language, standard language, lingua franca, dialect, register, pidgin, creole, jargon, etc. Jargon is a language used by a group of people with special terms and words in order to ease the communication between the members of the group and that lead to tie them and exclude outsiders (Fromkin et al, 2011: 478). Soukhanov et al (1994: 2101), assert this notion and said that "jargon is the specialized language used by a social or occupational group but not understood by the general public". So, jargon is important and necessary for people who share the same group, occupation, job, and interests (Brown and Attardo, 2005: 118). But at the same time it doesn't make sense especially for those who are outside the group, it is according to Soukhanov et al (1994: 3877), meaningless speech, it is hybrid language or dialect. The words that are meaningless outside a certain group are used in many fields such as, literature, law, science, medicine, computer, politics, business, police, etc.

Medicine, as any other field, has its own terms, words, phrases, and variety of language. This language is understandable only by the medical staff, they use it between them for some reasons. These reasons maybe different or similar to those of other fields. Healthcare professionals consider using such language is very important, learning and knowing this medical language is the way to a distinguished career in the healthcare field (Turley, 2014: 5). Latin and Greek languages are the major reference of medical words, Collin (2004: 58), these languages, as other languages, had rules to form, for instance, plural nouns and rules to the pronunciation these nouns (i.e. singular and plural), these rules are used up to this time (ibid: 8). these medical terms have its own roots, combining forms, combining vowel, suffixes, and prefixes (Allan and Basco, 2019: 2). Roots as in *Pneumonia* (is an infection of the lung tissue) when *pneum* is a Greek root means lung or air (Allan and Basco 2019: 4). Combining forms which means the combination of two or more parts as in *osteoarthritis* which is a combination of the word root *oste* means *bone* and *arthr* means the *joint* (Fremgen and Frucht, 2016: 3). Combining vowel which means a vowel usually (o) that links the word root to another word root or a suffix (ibid: 3), any vowel, “a,” “e,” “i,” “o,” or “u,” can be used as a combining vowel (Allan and Basco, 2019: 4) as in *cardi-o-logy* (the practice that studies, diagnoses, and treats disorders of the heart. Suffixes as in *cardi-tis* (inflammation of the heart) (Fremgen and Frucht (2016: 3). Prefixes as in the term *hypo-gastric* which means pertaining to below the stomach (Chabner, 2017: 6).

III. METHODOLOGY: The English terms come to be used by IMS in hospitals in Iraq after changing them, the researcher attempts to analyze these changes linguistically on morphological and phonological level. The terms are collected directly from physicians, pharmacists, analysts and nurses within Karbala governorate hospitals. The sample of this study is hospitals in Karbala city.

English and Arabic Transcription Style

The Arabic words have been transliterated using Latin alphabetical letters, e.g. *mabiiha faayda*. ما بيها فايده it is useless. Since Arabic contains some sounds that are not exist in English, a corresponding character with similarity when possible has been chosen. (Al-Bazi, 2006) is adopted for the transliteration purposes. The transcription of all English terms is based on Oxford Dictionary (2009) and (Collin: 2004).

The Dictionaries Employed

The Oxford Advanced Learner's Dictionary (2009) is used for the meaning of some terms, for those terms that are used for the medical purposes and have only the medical meaning such as sepsis, suture, VF, etc. the Collin (2004), Jablonski (2005), and Marcovitch (2005) are used. For the Arabic meaning Oxford Word power (2006) is used.

Each of the following charts contains linguistic analysis of one term.

- The first row contains the E term without any addition (if exists).
- The second row contains the E term from which IMS derive the Iraqi term, and the Iraqi derived term as well.
- The third row contains the English meaning.
- The fourth row contains the Arabic meaning.
- The fifth row contains the transcription of the English term.
- The sixth row shows the Iraqi term is pronounced in Arabic and English letters.
- Changes: this title includes two subtitles:
 - The Phonological to illustrate where the phonological changes occur.
 - The morphological that show where the structural changes occur on the word.

addiction	
addicted → اِدْتَكْتُ	
E meaning	The condition of being unable to stop using or doing something as a habit, especially something harmful.
A meaning	اِدْمَان
Transcription	/ə'dɪktɪd/
Iraqi pronunciation & its transliteration	اِدْتَكْتُ ?idadakt
changes	<ul style="list-style-type: none"> - Substitution the E vowel /ə/ by /?i/. - Substitution the E vowel /ɪ/ by /a/. - Adding the consonant /d/. - Adding the vowel /a/.

	morphological	Deleting the suffix {-ed}.
admission		
admission → إِمَادِمِش		
E meaning	The act of being registered as a hospital patient. Admit, v. to register a patient in a hospital.	
A meaning	دخول, قبول, يسمح بالدخول, يُدخِل	
Transcription	/əd'mɪʃn/	
Iraqi pronunciation & its transliteration	إِمَادِمِش ?im?admish*	
changes	phonological	Deleting the E consonant /n/.
	morphological	Adding the prefix {?im-} to make the word an adjective.

aggress		
aggressive → إِمَاغْرِز		
E meaning	Angry, behaving in a threatening way, ready to attack.	
A meaning	مستعد او محب للشجار, عدواني	
Transcription	/ə'gresɪv/	
Iraqi pronunciation & its transliteration	إِمَاغْرِز ?im?agrɪz	
changes	phonological	Substitution the E consonant /s/ by /z/.
	morphological	Substitution the E derivational suffix {-ive} by the prefix {?im-} to make the word an adjective.*

ampoule		
ampoules → أَمْبُولَات		
E meaning	A small container, usually made of glass, containing a drug that will be used for an injection	
A meaning	وعاء زجاجي يحتوي على عقار يُستخدم للحقن	
Transcription	/æmpju:lz/	
Iraqi pronunciation & its transliteration	أَمْبُولَات ?ampuulaat*	
changes	phonological	Substitution the E sounds /ju:/ by /uu/.
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.*

*The letter ? is added at the beginning of the word in Iraqi dialect because there is a rule in standard Arabic says that " the Arabic sentence doesn't start without diacritics and doesn't end with them (Ibin Jini, 1955: 326).

*This suffix is a mark of the regular plural of the feminine nouns in Standard Arabic; it is also used in Iraqi dialect. IMS add it to pluralize the feminine nouns instead of the E inflectional suffix {-s} (the plural {-s}). IMS by applying this procedure they follow the Arabic rule of the regular plural process of feminine nouns that adds the suffix {-aat} ات at the end of the singular feminine nouns (Al- Hamalawi, 1957: 151).

apnea		
apnea → إِمَائِن		
E meaning	The stopping of breathing.	
A meaning	إنقطاع النفس	
Transcription	/'æpniə/	
Iraqi pronunciation & its transliteration	إِمَائِن ?im?appin	
changes	phonological	- Doubling the sound /p/.* - Adding the vowel /i/ between /p/ and /n/.

	- Deleting the two E sounds /i/ and /ə/.
morphological	Adding the prefix { ?im- } to make the word an adjective.

bur		
burs → بيرات		
E meaning	Dental bur is a tool used for making a hole in the tooth or bone and is usually made of stainless steel.	
A meaning	اداة لحفر السن.	
Transcription	/bɜ:(r)z/	
Iraqi pronunciation & its transliteration	بيرات beeraat	
changes	phonological	- Substitution the E long vowel /ɜ:/ by /ee/. - The sound /r/ is always pronounced.
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

cannula		
cannulae, cannulas → كانيولات		
E meaning	A thin tube that is put into a vein or other part of the body.	
A meaning	انبوب رفيع يتم إدخاله في الوريد لحقن الدواء (فنية)	
Transcription	/'kænjələ/	
Iraqi pronunciation & its transliteration	كانيولات kanyulaat	
changes	phonological	_____
	morphological	This E word has two forms of pluralization in E, regular with adding {-s} and irregular with adding {-e} at the end. IMS pluralize it by adding the suffix {-aat} ات at the end.

*This consonant doubling process is called gemination which means according to Crystal (2008: 206) a string of the same segments of a sound in one morpheme. It is a spelling and pronunciation feature by which consonants are pronounced with double strength or emphasis. In Arabic the process of doubling sounds is called *tashdiid* and the diacritical symbol is named *shadda* (َ) (Ryding, 2005: 24).

capsule		
capsules → كَيْسولات		
E meaning	A small container that has a measured amount of a medicine inside and that dissolves when you swallow it.	
A meaning	كيسولة (دواء)	
Transcription	'kæpsju:ls	
Iraqi pronunciation & its transliteration	كيسولات kapsuulaat	
change	phonological	Substitution the E vowel /æ/ by /a/.
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

case	
cases → كَيْسات	
E meaning	An example of an illness; a person who is suffering from an illness.

A meaning	حالة (حالة مرضية)	
Transcription	/keisız/	
Iraqi pronunciation & its transliteration	كيسات keisaat	
change s	phonological	_____
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

delivery (NVD)*		
delivery → دَلْفَرَتْ		
E meaning	The process of giving birth to a baby	
A meaning	ولادة، وضع	
Transcription	/dɪˈlɪvəri/	
Iraqi pronunciation & its transliteration	دَلْفَرَتْ dalverat	
changes	phonological	<ul style="list-style-type: none"> - Substitution the E vowel /ɪ/ by /a/. - Deleting the E vowel /ɪ/. - Substitution the E vowel /ə/ by /e/. - Deleting the E vowel /i/.
	morphological	Adding Arabic attached feminine subject pronoun {-at} ت which is equivalent to (she did).*

*normal vaginal delivery (Jablonski: 2005).

*{ت} is a sign of the feminine subject in Arabic language (Al-Asmar, 1985: 33), and it is the same in Iraqi dialect (Al-Bazi, 2006:57).

depression		
depressed → اِمْدَبْرِس		
E meaning	Suffering from the medical condition of depression.	
A meaning	مكتئب	
Transcription	/depressed/	
Iraqi pronunciation & its transliteration	اِمْدَبْرِس ?imdabris	
changes	phonological	<ul style="list-style-type: none"> - Substitution the E vowel /e/ by /a/. - Substitution the E consonant /p/ by /b/. - Substitution the E vowel /e/ by /i/.
	morphological	Adding the prefix {?im-} to the word to make it an adjective instead of the E derivational suffix {-ed}.

diagnosis		
diagnose → دِغْنَزْتَه		
E meaning	To say exactly what an illness or the cause of a problem is.	
A meaning	يُشَخِّص	
Transcription	/ˈdaɪəgnəʊz/	
Iraqi pronunciation & its transliteration	دِغْنَزْتَه dagnazta	
changes	phonological	<ul style="list-style-type: none"> - Substitution the E triphthong /aɪə/ by /a/. - Substitution the E diphthong /əʊ/ by /a/.
	morphological	Adding the suffixes {-t} and {-a} ته to the word by IMS, which they are equivalent to the E subject pronoun (I) and to the masculine object pronoun (him) successively.

dose		
doses → دوزات		
E meaning	A measured quantity of a drug or medicine given to someone at one time.	
A meaning	جُرعة	
Transcription	/dəʊsɪz/	
Iraqi pronunciation & its transliteration	دوزات doozaat	
changes	phonological	- Substitution the E diphthong /əʊ/ by /oo/. - Substitution the E consonant /s/ by /z/.
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

efficient uterine contraction		
efficient uterine contraction → إِنْأَفْشَنْ		
E meaning		
A meaning	تقلص، انكماش (تقلص تام في عضلات الرحم)	
Transcription	/ɪ'fɪʃnt/	
Iraqi pronunciation & its transliteration	إِنْأَفْشَنْ ?it?afshan	
changes	phonological	- Substitution the E vowel /ɪ/ by /?a/. - Deleting the second vowel /ɪ/. - Adding /a/ between the sounds /ʃ/ and /n/. - Deleting the E consonant /t/.
	morphological	Adding the prefix {?it-} to change the word into a verb in past form in Iraqi dialect.

file (for cleaning)		
files → فَايَلَات		
E meaning	A metal tool with a rough surface for cleaning the tooth or for making them smooth.	
A meaning	ميرد لتتظيف الاسنان	
Transcription	/faɪlz/	
Iraqi pronunciation & its transliteration	فايلات failaat	
change s	phonological	_____
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

fit	
fit → فَتْفَتْ	
E meaning	A sudden attack of a disorder, especially convulsions and epilepsy
A meaning	نوبة مرضية، صرعة
Transcription	/fɪt/
Iraqi pronunciation & its	فَتْفَتْ fatfat

transliteration		
changes	phonological	Substitution the vowel /ɪ/ by /a/.
	morphological	Doubling the sequence of the letters {fat} to build up an Iraqi verb in past form.

gown		
gowns → گاونات		
E meaning	a piece of clothing worn in a hospital, either by medical staff during surgery or by a patient, as protection against infection.	
A meaning	رداء فوق الملابس	
Transcription	/ˈɡaʊnz/	
Iraqi pronunciation & its transliteration	gawnaat گاونات	
change s	phonological	_____
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

gypsum		
gypsum → جَبْسَنَة		
E meaning	a soft white mineral like chalk that is found naturally and is used in making plaster of Paris	
A meaning	جبس	
Transcription	/'dʒɪpsəm/	
Iraqi pronunciation & its transliteration	jabsana جَبْسَنَة	
changes	phonological	<ul style="list-style-type: none"> - Substitution the E vowel /ɪ/ by the sound /a/. - Substitution the E consonant /p/ by the sound /b/. - Substitution the E vowel /ə/ by the sound /a/. - Substitution the E consonant /m/ by the sound /n/.
	morphological	Adding the suffix {-a} {ة} which is the masculine object pronouns (him) or (it) in Arabic language and Iraqi dialect as well.*

incisor		
incisors → إنسائزرات		
E meaning	One of the sharp teeth at the front of the mouth that are used for biting.	
A meaning	سن قاطعة، الاسنان الامامية	
Transcription	/ɪnˈsaɪzə(r)z/	
Iraqi pronunciation & its transliteration	إنسائزرات? insaizaraat	
changes	phonological	Substitution the E vowel /ə/ by /a/.
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

*(Al-Bazi, 2006: 1)

kit	
kits → كُتات	

E meaning		Any blood examine or diagnostic test that uses a dipstick.
A meaning		لوازم، عُدّة
Transcription		/kɪts/
Iraqi pronunciation & its transliteration		كِتَات kitaat
change س	phonological	_____
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

list		
list → لِسْتَه		
E meaning		A series of names, items, figures, etc. especially when they are written or printed.
A meaning		قائمة
Transcription		/lɪst/
Iraqi pronunciation & its transliteration		لِسْتَه lista*
changes	phonological	_____
	morphological	Adding the suffix {-a} ة to make the word refers to a feminine object.

patient		
patients → پِشْنَتِيَا		
E meaning		A person who is receiving medical treatment, especially in a hospital.
A meaning		مريض
Transcription		/'peɪfnt/
Iraqi pronunciation & its transliteration		پِشْنَتِيَا peishintiya
change س	phonological	Adding the sound /i/ between the two sounds /ʃ/ and /n/.
	morphological	Adding the suffix {-iya} يه to the word to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

* This suffix is considered as a feminine marker in Arabic language (Abu-Haidar, 1991: 72) and Iraqi dialect as well (Al-Bazi, 2006: 1). It is pronounced as /a/ (◌) sound if there is not any diacritic (Abu-Haidar, 1991: 73).

pipe		
pipes → پَايِيَات		
E meaning		A tube through which liquids and gases can flow.
A meaning		إنبوب
Transcription		/paɪps/
Iraqi pronunciation & its transliteration		پَايِيَات paipaata
change س	phonological	_____
	morphological	Adding the suffix {-aat} ات to the term to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

sample		
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samples → سامپلات		
E meaning	A small quantity of something used for testing.	
A meaning	عينة	
Transcription	/'sa:mpɫz/	
Iraqi pronunciation & its transliteration	سامپلات sampilaat	
changes	phonological	- Substitution the E long vowel /ɑ:/ by /a/. - Adding /i/ between the sounds /p/ and /l/.
	morphological	Adding the suffix {-aat} ات to the word to pluralize it in Iraqi dialect by IMS instead of the inflectional suffix {s}, the plural {-s}.

show business*		
showbiz → شو بيزته		
E meaning	Informal showbiz, the business of providing public entertainment, for example in the theatre, in films or in television.	
A meaning	عالم الأضواء	
Transcription	/'ʃəʊbɪz/	
Iraqi pronunciation & its transliteration	شو بيزته shoobazta	
changes	phonological	- Substitution the E diphthong /əʊ/ by the /oo/. - Substitution the E vowel /ɪ/ by the /a/.
	morphological	Adding the suffixes {-t} and {-a} ته to the word by IMS, which they are equivalent to the E subject pronoun (I) and to the masculine object pronoun (him) successively.

*IMS utilize this term to say that *I took care of the patient* or *I did all necessary procedures for him*.

stable		
stable → إمستبلة		
E meaning	Fixed or steady; not likely to move, change or fail.	
A meaning	ثابت، مستقر	
Transcription	/'steɪbl/	
Iraqi pronunciation & its transliteration	إمستبلة ?imsatbula	
changes	phonological	- Adding the vowel /a/ between /s/ and /t/. - Deleting the E diphthong /eɪ/. - Adding the vowel /u/ between /b/ and /l/.
	morphological	- Adding the prefix {?im-} to make the term an adjective in Iraqi dialect. - Adding the suffix {-a} ة to feminize the adjective.
suture		
suture → يسوچر		
E meaning	To sew up a wound.	
A meaning	قطب الجرح، خايط	
Transcription	/'su:tʃə(r)/	
Iraqi pronunciation & its transliteration	يسوچر yisoochir	
changes	phonological	Substitution the E vowel /ə/ by /i/.
	morphological	Adding the prefix {y-} (ي) which is a masculine subject pronoun in Iraqi dialect that equivalent to the E subject pronoun (he).

syrup		
syrup → سَرِبِنَه		
E meaning	A thick solution made from sugar and water that contains medication	
A meaning	قَطْرٌ، رِب السُّكَّرِ	
Transcription	/'sɪrəp/	
Iraqi pronunciation & its transliteration	sarpana سَرِبِنَه	
changes	phonological	<ul style="list-style-type: none"> - Substitution the E vowel /ɪ/ by the sound /a/ - Deleting the E vowel /ə/ - Adding the sounds /a/ and /n/
	morphological	Adding the suffix {-a} {◌} which is the masculine object pronouns (him) or (it) in Arabic language and Iraqi dialect as well.

tear		
tear → تَيَّر		
E meaning	A hole or a split in a tissue often due to over-stretching.	
A meaning	يَتَمَزَق	
Transcription	/teə(r)/	
Iraqi pronunciation & its transliteration	تَيَّر tajjar	
changes	phonological	<ul style="list-style-type: none"> - Substitution the E diphthong /eə/ by /ajja/. - The sound /r/ is always pronounced in Iraqi dialect.
	morphological	_____

vaccine		
vaccine → فُكْنَزَه		
E meaning	a substance that is put into the blood and that protects the body from a disease	
A meaning	لِقَاح	
Transcription	/'væksi:n/	
Iraqi pronunciation & its transliteration	vaknaza فُكْنَزَه	
changes	phonological	<ul style="list-style-type: none"> - Deleting the E consonant /s/ and the E long vowel /i:/. - Adding the sound /a/ and the sound /z/.
	morphological	Adding the suffix {-a} {◌} which is the masculine object pronouns (him) or (it) in Arabic language and Iraqi dialect as well.

VF (Ventricular Fibrillation)	
VF → يَفِيف	
E meaning	A serious heart condition where the ventricular muscles flutter and the heart no longer beats.
A meaning	الرَّجْفَانُ البَطِينِي (ارتجاج البطين في القلب) إحتشاء القلب
Transcription	/vi: ef /

Iraqi pronunciation & its transliteration		يَـفِـفُ yivajiif
changes	phonological	- Deleting the E long vowel /i:/. - Substitution the E vowel /e/ by /ajii/ يَـ.
	morphological	Adding the prefix {yi-} (ـِـ) which is a masculine subject pronoun in Iraqi dialect that equivalent to the E subject pronoun (he).

wheeze		
wheezees → يَـزِـزُ		
E meaning	to make a whistling sound when breathing	
A meaning	يَـزِـزُ (صدر المريض)	
Transcription	/wi: ziz/	
Iraqi pronunciation & its transliteration	يَـزِـزُ yi?az?iz	
changes	phonological	- Deleting the E consonant /w/. - Substitution the long vowel /i:/ by /?a/ - Adding /?/ between the sounds /z/ and the last /i/.
	morphological	Adding the prefix {yi-} (ـِـ) which is a masculine subject pronoun in Iraqi dialect that equivalent to the E subject pronoun (he).

IV. DATA ANALYSIS AND RESULTS DISCUSSION: An examination of the above tables which include data analysis shows the following results and findings:

Table (2) shows that 31 item out of 32 are undergone change on the morphological level with percentage of (96.87%). Phonologically there are 25 item out of 32 that are undergone changes with percentage of (87.12%). (See figure 1).

Table 2: Frequency of occurrence of changes and percentages

Change	Frequency of Occurrence	Out of	Percentage
morphological	31	32	96.87
phonological	25	32	78.12

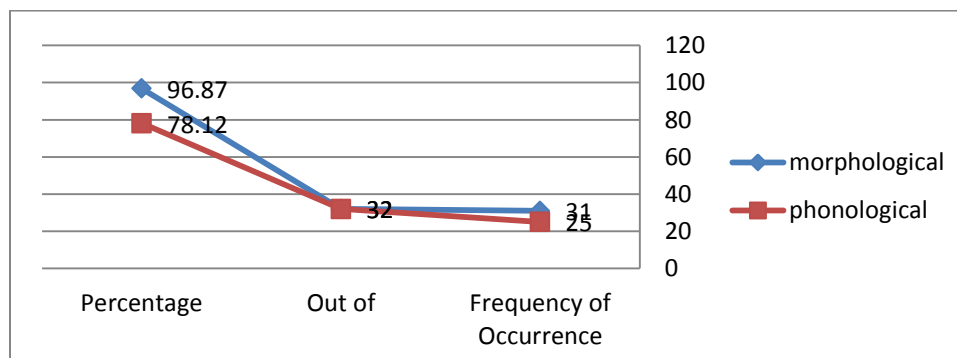


Fig 1: Diagram of morphological and phonological changes

Morphological Changes

Table (2) shows that most terms are undergone changes on the morphological level due to the attachment of these terms either to suffix or prefix to form an adjective as in *admission* → اِمْـادِـمِـشْ, or a verb as in *delivery* → تَلْفِـرَتْ to add masculine subject pronoun as in *suture* → بِيـسُـوِـجِرْ, to pluralize as in *ampoules* → اَمْـبُـوِـلَاتْ, to add the masculine

object pronouns as in *cool* → كَوَّلَه to add feminine subject pronoun as in *delivery* → دَلْفَرْتْ to feminize the adjective as in *full* → اَمْفُوْلَه, and to make an object feminine as in *list* → لِسْتَه. The morphological change occur also due to substitute the suffix as in *aggressive* → اِفْاَكْرَزْ or to delete affixes as in *addicted* → اِدْتَكْتْ.

Table (3) reveals that the most morphological changes occur due to add the suffix {-aat} to pluralize the terms with (12) terms as in *burs* → بِيْرَات. Adding the prefix {?im-} {إم-} as in *contamination* → اِمْتَكْتِمْ occurs in (5) terms. The prefix {y-} {ي-} as in *wheeze* → يَلْزِيْزْ is added to (3) terms. The suffix {-a} {ا} which meets the E masculine object pronouns (him) or (it) as in *syrup* → سَرْيَنَه is added to (3) terms. Both suffixes {-t} {ت} and {-a} {ا} as in *diagnose* → دِكْنَزْتَه are added together to the same terms with (2) terms. For the purpose of feminization, the suffix {-a} {ا} as in *ruptured* → اِمْرِبْجَرَه is added to (2) terms. Pluralization in Iraqi dialect is also formed by adding the suffix {-iya} {ية} to the terms in *patients* → بِيْشَنْتِيَه, this occurs once. The suffix {-at} {ت} which is added in Iraqi dialect to a verb in its past form to denote that the subject (the doer) of that action is female, it is equivalent to the E subject pronoun (she), this suffix occurs in one term. Deleting the suffix {-ed}, doubling a sequence of letters as in *fit*, and adding the prefix {?it-} occur with only one term.

Table 3: Types of Morphological changes

1	Adding the suffix {-aat} {ات} for pluralization	12
2	Adding the prefix {?im-} {إم-} to form an adjective	5
3	Adding the prefix {y-} {ي-}	3
4	Adding the suffix {-a} {ا} which meets <i>him</i> or <i>it</i>	3
5	Adding the suffixes {-t} {ت} and {-a} {ا} to the same term	2
6	Adding the suffix {-a} {ا} for feminization	2
7	Adding the suffix {-iya} {ية}	1
9	Adding the suffix {-at} to meet the E subject pronoun <i>she</i>	1
11	Deleting the suffix {-ed}	1
13	Doubling a sequence of letters as in <i>fit</i>	1
15	Adding the prefix {?it-}	1
	Total*	32

Phonological changes

On the phonological level the changes occur due to adding sounds whether these sounds are consonants or vowels as in addition the E sound /a/ and /n/ in *syrup* → سَرْيَنَه. It may occur by deleting sounds e.g. delete the E long vowel /i:/ as in *vaccine* → فِكْنَزَه. Changes happen also due to substitution sounds as in substitution the E sound /s/ by /z/ in *aggressive* → اِفْاَكْرَزْ. Some changes occur by doubling sounds as in *apnea* → اِفْاَيْن. The change occurs not only with consonants, it also occurs with diphthongs and triphthongs. With diphthongs, changes happen either by deleting diphthong as in *stable* → اِمْسْتَبِلَه or by substituting diphthong as in *doses* → بُوْزَات. Changes with triphthongs occur only by substitution these triphthongs as in *diagnose* → دِكْنَزْتَه.

The number of terms that are undergone on this level is (25) terms out of (32) (see table 2), most of these terms are changed in more than one part or sound, this led to increasing in the total number of changes. Table (4) exhibits the classification of changes according to their types.

Table (4): Types of phonological changes

No.	Type of Change	Frequency of	Out of	percentage
1	Substitution sound	30	54	55.55
2	Deleting sound	11	54	20.37
3	Addition sound	10	54	18.51
4	Pronunciation sound /r/	2	54	3.70
5	Doubling sound	1	54	1.85

	Total	54	
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From the above table we can notice that the lion's share of changes is to substitution sounds with (30) out of (54) change which represents (55.55%) regardless whether these sounds are consonants, vowels, diphthongs, or triphthongs i.e. it occurs with all sounds.

*The term *full* → *مفولة* is undergone two changes that makes the total changes on morphological level are 32 changes.

The second type of changes happens by deleting sounds and occurs in (11) terms which represents (20.37%) of all changes, deleting sounds occurs with consonants, vowels, and diphthongs. The third type of changes happens according to the addition of sounds and took place in (10) terms and represents (18.51%) of the total changes on this level, addition sounds occur only with consonants and vowels but not with diphthongs or triphthongs. In fact, there are two major groups of accents according to /r/ distribution, rhotic and non-rhotic accent. Collins and Mees (2013: 96), states that rhotic in which /r/ sound is always pronounced includes American varieties and non-rhotic that do not pronounce /r/ only if it comes before vowels, non-rhotic comprises England and Wales. Iraqi speakers follow the rhotic accents in pronunciation sound /r/, this leads to changing in pronunciation terms in comparison with British accent. This change as in *tear* → *تئر* occurs with (2) terms and this represents about (3.70%) of all phonological changes. The last kind of changes is that results by doubling certain sounds, this kind occurs only with (1) term about (1.85%). Doubling sounds occurs only with consonant sounds.

V. Conclusions, Recommendations and Suggestions:

The data analysis has revealed number of facts that can be summarized as follows:

- 1- These foreign words and terms are undergone some linguistic changes to meet the same rule of the language or the dialect in which they are used to be utilized easily and then to be a part of this language or dialect as in the case of IMS that these terms came to be a part of their everyday language in hospitals.
- 2- One of the ways of forming adjectives in Iraqi dialect is adding the prefix {?im} {-إ} to certain words, e.g. the Iraqi adjective ?imsakhin (the one who got a fever). The process of adding this prefix in Iraqi dialect is to ease the pronunciation of the words especially those that do not start with Arabic diacritics (ءَ، ةَ، ةِ).
- 3- Most morphological changes occur due to adding the suffix {-aat} to any term refers to a noun to pluralizes it instead of the process that is applied in English language by adding the {s} plural, this leads to more changes on this level.
- 4- Most Iraqi dialect rules that are applied on these terms are derived from Standard Arabic ones, such as feminization with the suffix {-a}.
- 5- IMS applied substitutions to facilitate the pronunciation of the word by reducing diphthongs into only one sound as with substitution diphthong /əʊ/ by /a/ and substitution triphthong /aɪə/ by /a/ in diagnose → دگنزته /'daɪəgnəʊz/ → dagnazta.
- 6- A big number of changes on the phonological level occurred because of substitution of English sounds by the diacritics in Iraqi dialect as with substitution the English vowel /ɪ/ by /a/ in the word addicted /ə'dɪktɪd/ → /?ɪdɪdakt/. The diacritics that are used in Standard Arabic are also used in spoken Iraqi dialect, these diacritics have a great effect on phonological changes on these terms.

Recommendations:

- 1- IMS should avoid using jargon language in medical field especially with patients for two reasons; first, the medical field is a very sensitive field that it has a direct contact with the human beings life, second, it makes the patients or their companion confused and do not understand what they have to do.
- 2- The correct pronunciation should be vocalized with the words that do not have Arabic equivalents as in enzyme, microbe, microscope, vitamin, virus, etc.
- 3- It is very important to understand medical terminologies and the way their structures have been built not only for linguists but also for students in medical colleges and even for their practical life after graduation.

Suggestions for Further Researches:

- 1- Further studies can be conducted on using these terms by IMS such as sociolinguistic and psycholinguistic studies.
- 2- A similar study can be applied on other communities who use English terms such as engineers, college students, pilots and the like.

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