

UNDERSTANDING LINGUISTIC FEATURES OF ENGLISH MEDICAL TERMINOLOGY

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Abstract: Specialized job positions require the mastery of professional communication in the specific field of work. The appearance of new diseases and medical procedures have contributed to a constant enriching of medical terminology. The global development of science entails a continuous lexical expansion. The paper deals with linguistic aspects related to English for medical purposes. It presents a brief overview of theories related to languages for special purposes, emphasizing certain lexical features of English medical terminology, such as the core of Greek and Latin origin root words and affixes, use of acronyms, abbreviations, and eponyms.

Keywords: *specialized languages, linguistic features, English medical terminology, medical eponyms.*

1. Introduction

Languages for specific purposes have been developed to meet the needs of people whose purpose is to use English in professional contexts. Thus, a specialized language is defined as a specific discourse used by professionals and specialists to communicate and transfer information and knowledge. Montalt et. al (2018) state that appropriate use of medical terminology is one of the core conditions for successful communication in monolingual and multilingual healthcare communities. Nowadays the most influential medical journals and books are written in English that has become the lingua franca of medicine and science regarding scientific papers and international conferences and is expected to remain so in the future.

2. English for Specific Purposes

As discussed by Hutchinson and Waters (1987/1991), a major use of discourse analysis in English for Specific Purposes consisted in drawing the learners' focus to "the stages in certain set-piece transactions associated with particular specialist fields" as well as in explaining through ESP materials how meaning was created "by the relative positions of the sentences in a written text" (Hutchinson, T., Waters, A., 1991:34).

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Therefore, it is necessary “to identify the kind of language associated with a specific context, such as an area of knowledge (legal English; social English; medical English; business English; scientific English etc.), or an area of use (technical manuals, academic texts, business meetings, advertisements, doctor- patient communication etc.). Much ESP research was focused as a result on determining the formal characteristics of various registers in order to establish the selection of syllabus items” (Hutchinson, T., Waters, A., 1991: 30).

According to Crystal (1997), English for Sciences implies a special vocabulary that incorporates a large group of words of Latin or Greek origin, whereas the development of sciences imposes the ongoing enrichment of this scientific vocabulary. “The methodology of science, with its demand for objectivity, systematic investigation, and exact measurements, has several linguistic consequences. There is an overriding concern for impersonal statement, logical exposition, and precise description. Emotional comment, humour, figurative expression, and other aspects of personal language are avoided (except in writing for a lay audience” (Crystal, D., 1997: 384). Therefore, the language of science is described by precise and unambiguous expressions; it is a register characterized by specialist terms and terminological combinations, mostly using their referential function. Scientific texts often use long and complex sentences, with complex noun phrases, relative pronouns, adverbials or linking words, passive voice structures that focus on the experiment or phenomenon that has been carried out rather than on the doer of the action.

“Lexical units of any given specialized domain can be classified into three different categories: technical terms, semi-technical terms and general vocabulary frequently used in a specialized domain” (Motos, R., 2013: 9). Technical terms refer to “those lexical units exclusively used by a given knowledge community in a specific domain” (Motos, R., 2013: 9). They are characterized by univocity and accuracy in a specific context and are found in specialized dictionaries or glossaries. Semi-technical terms “come from the general language but have acquired one or more different meanings when used within a specific area ... Thus, their usage is not confined to a specific scientific or technical context as it is usually common to several fields. As a result, semi-technical terms are subject to polysemy, mainly due to the extension of meaning through processes of analogy.” (Motos, R., *ibid.*)

In her work *Terminology. Theory, Methods and Applications* (1999), Cabré, M.T defines special or specialized languages as a set of subcodes that are determined by a precise set of components such as subject area, interlocutors, their intentions, context and type of exchange. They have

many features in common with the general language: “the distinctive elements of special languages are not isolated phenomena, but rather interrelated sets of characteristics; the purpose of communication is more important than other, complementary functions; the special nature consists of differences in subject field, user knowledge, and area of usage.” (Cabré, M.T., 1999: 62)

3. Lexical Features of English Medical Terminology

Learning the challenging language of medical terminology may be an overwhelming experience for specialists as well as for non-specialists. It is regarded as a specialised language used by health care practitioners for professional communication throughout the world. “Contemporary medical English terminology has been diachronically influenced by several languages, in particular Greek, Latin, Latinised Greek, French and Arabic. This cross-influence is directly associated with the historical context in which medicine and its language developed” (Kujawska-Lis, 2018: 83).

According to Parkinson (2000: 371) scientific texts are characterized by the following features: nominalization of verbs and adjectives; technical phrases (medical jargon); extended nominal groups/collocations due to the fast growth of scientific knowledge that has generated many new terms, i.e. chronic obstructive pulmonary disease; tentative language (hedging); causal and reasoning verbs; impersonal language and passive forms of the verb. In medical writing experts depend heavily on a passive and impersonal style instead of using the active voice. The need for depersonalization of the discourse by a specialist highlights the effects and results of an action rather than who the author of the action is.

Specialized medical lexis “comprises several layers: technical vocabulary, Latin and English medical terms used in anatomical descriptions, scientific papers (e.g. *acne vulgaris*; *tetanus*; *opisthotonos*; *diarrhea*); semi-technical vocabulary, i.e. language used in communication among doctors (e.g. *acne*; *skin eruption*; *trismus*); non-technical (colloquial) vocabulary, i.e. medical English sometimes used by doctors in communication with patients without medical education (*pimples*; *red spots*; *rash*; *lockjaw*; *the runs*). The existence of technical, semi-technical and colloquial terms contributes to the existence of various synonyms of different origin.” (Džuganová, B., 2019:131) Synonyms are used in different registers such as in scientific writing or doctor- patient communication, for instance: *alopecia*/ *baldness*, *axilla*/ *armpit hemorrhage*/ *bleeding*, *myopia*/ *shortsightedness*, *pruritus*/ *itching*, *edema*/ *swelling*.

Considering www. Webster- Merriam, the word *disease* displays a wide range of synonyms that might lead to misunderstanding if used in the wrong

context: *affection, ail, ailment, bug, complaint, complication, condition, disorder, distemper, distemperature, fever, ill, illness, infirmity, malady, sickness, trouble*. At first *disease* referred literally to 'lack of ease or comfort' rather than to how it is used today to refer to an abnormal state that disrupts a plant's or animal's normal bodily functioning.

The beginning of the Greek era of the language of medicine was related to the Hippocratic writings from the 5th and 4th centuries BC, the oldest written sources of western medicine which contained a variety of medical terms by covering a wide range of medical aspects. At the beginning of the first century AD, when Greek was still the language of medicine in the Roman world, an important development took place. Celsus' *De Medicina (On Medicine)* was an encyclopedic overview of medical knowledge based on Greek sources. The author faced the difficulty that most Greek medical terms had no Latin equivalents. Consequently, he imported a few Greek terms directly, even preserving their Greek grammatical endings; latinized Greek words, writing them with Latin letters by replacing Greek endings by Latin ones; moreover, he translated Greek anatomical terminology into Latin. The Greek legacy comprises numerous names of diseases and symptoms.

The language of medicine is mainly founded on Greek-Latin roots and affixes and has specific lexical and discourse features. Knowing the meaning of several constitutive elements in a word can help with interpretation of a larger number of medical terms. The human anatomy is basically named in Latin, while new medical and taxonomic terms are derived from Greek roots. Most medical terms may be divided into constitutive elements: roots, prefixes, and suffixes that maintain the same meaning whenever they appear. Medical English also displays a preference for synonym, acronym, abbreviation, and eponym use.

3.1. Greek-Latin Roots and Affixes

“Within the English terminological system, there can be distinguished: non-assimilated Latin terms (*abdomen, appendix, dorsum, foetus, locus, nucleus, vena, uterus*), non-assimilated Greek terms (*asthma, carcinoma, diabetes, emphysema, myeloma, osteoporosis, pneumonia, prophylaxis, sarcoma, trauma*); Latinized Greek terms (*bronchus* from Gr. *bronchos*; *colon* from Gr. *kolon*; *bacterium* from Gr. *bakterion*; *embolus* from Gr. *embolos*); assimilated Latin terms (*abuse, acid, gestation, muscle, intervention, ovary, pregnancy, pulse*); assimilated Greek terms (*laparoscopy, lymphadenopathy, episode*); terms with multiple assimilation - from Greek into Latin, from Latin into Old French, from Old French into English (*spamos- spasmus -spasme- spasm*); hybrid Greek/Latin terms with English

affixes (*nucleic, analgetic, spinal, crucial, premature, perinatal*) (Džuganová, B., 2019:134). Furthermore, English medical terms exhibit “the presence of Greek letters in clinical and chemical terms (*β-amylase, α-dextrin-endo-1,6-α-glucosidase*), in units of measure (*μg, Ω*) or adjectives, such as *deltoid, lambdoid, and sigmoid* which are derived from the lower-case Greek letters delta (Δ), lambda(λ), and sigma (ς) [...] symbols +(plus), -(minus) and ± (plus or minus), as well as the two standard gender symbols denoting male (♂) and female (♀).” (Alcaraz, A., 2012:73)

A word root is a fundamental unit of a medical word to which modifying prefixes and suffixes are added in order to develop a complete term. Most medical terms contain at least one-word root that refer to a particular part of the body or a body function. They are derived from Greek or Latin. Because of this twofold origin, two different roots may have the same meaning. For example, the Greek word *derm* and the Latin word *cutane* both refer to ‘the skin’. “As a general rule, Greek word roots are used to build words that describe a disease, condition, treatment, or diagnosis; Latin word roots are used to build words that describe anatomic structures. Consequently, the Greek root *dermis* used primarily in terms that describe a disease, condition, treatment, or diagnosis of the skin; the Latin root *cutane* is used primarily to describe an anatomic structure” (Gyls, B.A., Wedding, M.E., 2005: 68). The Greek root *nephr* and the Latin root *ren* both refer to ‘kidney’. The word *muscle* comes from a Latin word that means ‘mouse’ because the movement of a muscle under the skin was thought to resemble the scampering of a mouse.

The following table includes commonly used roots of Latin or Greek origin of body parts in medical terminology associated with meanings and examples.

Table 1. Medical words related to body parts derived from Latin and Greek

| Latin/ Greek root | Meaning | Examples of medical terminology |
|-------------------|---------|---------------------------------|
| aur(i) | ear | auricle |
| bucc(o) | cheek | buccogingival, buccolingual |
| cephal(o) | head | cephalgia, cephalic |
| cerebr(o) | brain | cerebrum; cerebral |
| cervic | neck | cervical |
| corpor | body | corporeal |
| cost(o) | rib | costochondral, costoclavicular |
| crani(o) | skull | cranium; cranial |
| dent | tooth | dental, dentist |
| derm(ato) | skin | dermatologist; dermatology |
| gastr | stomach | gastritis, gastrectomy |
| hepat | liver | hepatoma, hepatitis |

| | | |
|------------|---------|---------------------------------|
| kardia | heart | cardiology, cardiograph |
| mast(o) | breast | mastectomy; mastitis |
| nas/o | nose | nasopharynx, nasogastric |
| nephr/o | kidney | nephritis, nephrectomy |
| pector/o | chest | pectoral; pectoralgia |
| ophthalmos | eye | ophthalmologist, ophthalmoscopy |
| pulmon/o | lung | pulmonary, pulmonologist |
| rhin(o) | nose | rhinoplasty |
| somat(o) | body | somatology |
| stoma | mouth | colostomy |
| thorac(o) | chest | thoracic |
| vesic(o) | bladder | vesical |

A suffix is a short word part or series of parts added at the end of a root to change its meaning: such as *-itis* (inflammation) in *angiitis*, inflammation of the walls of small blood; *tonsillitis*, inflammation of the tonsils; *neur* (nerve) plus the suffix *-itis* in *neuritis* (inflammation of a nerve) or *spondylo* (vertebra) plus the suffix *-itis* in *spondylitis*, an inflammation of the vertebrae. The suffix *-ectomy* (excision) in *tonsillectomy*- the surgical removal of the tonsils. The suffix *-logy* (study of) added to the root *neur* (nerve or nervous system) and a combining vowel becomes *neurology* (study of the nervous system); *cardiology* (study of the heart and its action and diseases) is made of the root *cardi* (heart) and the suffix *-logy* (study of); *psychology* (study of the mind) consists of the root *psych* (mind) and the suffix *-logy* (study of). The suffix *-icide* indicates killing or killer, as in *bactericide*, a solution capable of killing bacteria. When a word ending in *x* has a suffix added, the *x* is changed to a *g* or a *c*. For example, *coccyx* (terminal portion of the vertebral column) becomes *coccygeal* (pertaining to the coccyx); *pharynx* (throat) turns into *pharyngeal* (pertaining to the throat); or *thorax* (chest) changes into *thoracotomy* (an incision into the chest).

Replacing suffixes implies transformation in the meaning of the newly formed words. Suffixes for medical specialties indicate: specialist in a field of study, for example *-ian*, such as *pediatrician*, *physician*, *technician*; *-ist*, such as *anatomist*, *cardiologist*, *dentist*, *internist*, *neurologist*, *orthodontist*, *radiologist*; or medical specialty, for instance: *-iatrics*, for example, *geriatrics*, *pediatrics*; *-iatry*, *podiatry*, *psychiatry*; *-ics*, *orthopedics*, *orthodontics*; *-logy*, *anesthesiology*, *cardiology*, *dermatology*, *endocrinology* etc. Medical procedures may be easier decrypted by understanding the meaning of surgical suffixes that describe a type of action performed on a body part: *-centesis* surgical puncture, *arthrocentesis*; *ectomy* excision, removal, *appendectomy*; *-graphy* process of recording, *angiography*; *-metry* act of measuring, *pelvimetry*; *-plasty* surgical repair,

rhinoplasty; *-scopy* visual examination, *endoscopy* ; *-tomy* incision, *tracheotomy*.

Other suffixes may describe a pathological context: *-algia* pain, *neuralgia*; *-cele* swelling in *hepatocele*; *-edema* swelling, *lymphedema*; *-emia* blood condition, *anemia*; *-megaly* enlargement *cardiomegaly*; *-oma* tumor *neuroma*; *-pathy* disease, *myopathy*; *-plegia*, paralysis, *hemiplegia*; *-stenosis* narrowing *arteriostenosis*.

A prefix is a short word part added before a root to modify its meaning. It usually indicates a number, time, position, direction, or negation. Commonly used prefixes of position are: *epi-* (above) *epiderm*; *hypo-* (under, below) *hypodermic*; *infra-* (under, below) *infracostal*; *sub* (under, below) *subnasal*; *inter-* (between) *intercostal*; *post-* (after, behind) *postnatal*; *pre-/ pro-* (before, in front of) *prenatal*; *prognosis*; *retro-* (backward, behind) *retroversion*. The prefix *endo-* (in; within) has been used in naming surgical procedures or instruments, such as *endocautery*, *endosuture*, *endoscope*, *endoscissors* or *endograsper*. Prefixes of number and measurement include: *bi-* (two) *bilateral*; *dipl(o)-* (double) *diplopia*; *hemi* (one half) *hemiplegia*; *hyper* (excessive) *hyperventilation*; *macro* (large) *macrocyte*; *micro-* (small) *microscope*; *mono-* (one) *monochromatism*; *uni-* (one) *uninuclear*; *multi-/ poly-* (many, much) *multigravida*, *polyphobia*; *primi-* (first) *primigravida*; *quadri-* (four) *quadriplegia*; *tri-* (three) *triplegia*. Prefixes of direction include: *ab-* from, away from; *ad-* toward; *circum-/peri-* (around); *dia-/ trans-* (through, across); *ecto-/ exo-/ extra-* (outside, outward); *endo-/ intra-* (in, within); *para-* (near, beside); *super-* (upper, above); *supra-* (above, excessive); *ultra* (excess, beyond). The most frequent negative prefixes in medical English are: *a-* *anemia*; *dis-* *disease*; *dys-* *dyspnea*; *in-* *intolerant*; *il-* *illegible*; *im-* *impossible*; *ir-* *irregular*; *mis-* *mistake*; *non-* *nonsense*.

Prefixes for colours are illustrated by: *cyan-* (blue) in *cyanosis*, bluish discoloration of the skin due to lack of oxygen; *erythr/o-* (red) in *erythrocyte*, a red blood cell; *leuk/o-* (white, colourless) in *leukocyte*, white blood cell; *melan/o-* (black, dark) in *melanin*, the dark pigment that colors the hair and skin; *chlor/o-* (green) in *chloropia*, disorder in which viewed objects appear green; *cirrh/o* (yellow) in *cirrhosis*, abnormal yellowing of the skin; *poli/o-* (gray) in *poliomyelitis*, inflammation of the gray matter of the spinal cord; *xanth/o-* (yellow) in *xanthoderma*, yellow coloration of the skin.

Health care products designed for specific age groups may also be encoded by prefixes. *Geri-* (related to old age), as in *geriatrics* can be found in terminology such *geri-chair*, *geri-pads*, *geri-jacket*; while *pedi-/ pedia-*

(child) are used in word formation of *pedicath*, *pedi-dose*, *pedi-set* (instruments).

3.2. Irregular Plural of Nouns of Greek or Latin Origin

The irregular plural occurs both in standard English as well as in medical terms of Greek or Latin origin:

- a. *a- ae* in *gingiva* (gum) plural *gingivae*; *vertebra* (bone of the spine), plural *vertebrae/ vertebrae*; *patella* (kneecap), plural *patellae/ patellas*;
- b. *ma- mata* in *stigma* (mark or scar), plural *stigmata*; *stoma* (opening), plural *stomata/ stomas*.
- c. *ex, ix, yx- ices* in *appendix* (something added), plural *appendices*;
- d. *is- es* in *anastomosis* (union of parts or branches so as to intercommunicate or interconnect), plural *anastomoses*; *diagnosis* (identification of disease), plural *diagnoses*; *pelvis*, plural *pelves/ pelvises*; *prognosis* (prediction of disease outcome), plural *prognoses*;
- e. *nx (anx, inx, ynx) - nges* in *phalanx* (bone of finger or toe), plural *phalanges*; *pharynx* (throat), plural *pharynges/ pharynxes*;
- f. *on- a* in *ganglion* (small mass of nerve tissue), plural *ganglia/ ganglions*; *spermatozoon* (male reproductive cell), plural *spermatozoa*;
- g. *um- a* in *bacterium* (type of microorganism), plural *bacteria*; *ovum* (egg), plural *ova*; *ileum*, plural *ilea, ilium*, plural *ilia*; *serum*, plural *sera*;
- h. *us- i* in *bronchus*, plural *bronchi*; *embolus*, plural *emboli*; *coccus*, plural *cocci*.

In Alexander's opinion (1988: 48) "there is a natural tendency to make all nouns conform to the regular rules for the pronunciation and spelling of English plurals. The more commonly a noun is used, the more likely this is to happen. Some native English speakers avoid foreign plurals in everyday speech and use them only in scientific and technical contexts." Medical terms may display doublets in plural forms, such as: *apex- apices/apexes*, *appendix-appendices/appendixes*; *focus-foci/focuses*; *foetus- foeti/ foetuses*; *formula- formulae/formulas*; *index-indices/indexes*; *serum- sera/ serums*; *uterus - uteri/uteruses*. Words ending in *-oma* (tumor) should be changed to *-omata*, but the *-s* plural form is commonly used, e.g. *sarcoma-sarcomata/sarcomas*; the plural of *carcinoma* (a type of cancer) should be *carcinomata*, instead of *carcinomas*.

3.3. Abbreviations and Acronyms

According to Gylys, B.A., Wedding, M.E. (2005: 2) "with technological and scientific advancements in medicine, many new terms have evolved to reflect these innovations. For example, radiographic terms, such as magnetic resonance imaging (MRI) and ultrasound (US), are now used to describe

current diagnostic procedures.” Abbreviations and acronyms (abbreviations formed from the initial letters of a compound term serving as pronounceable words) are used in this type of scientific language in order to imply precision and conciseness.

A number of abbreviations, many derived from Latin terms, are used on prescription forms and medication labels including: a.c., the abbreviation of the Latin phrase *ante cibum*, meaning ‘before meals’; ad lib, meaning ‘use as much as one desires’, from the Latin term *ad libitum*; b.i.d., meaning ‘twice a day’, from the Latin term *bis in die*; h.d., *hora decubitus*, meaning ‘at bedtime’; p.o. ‘take by mouth, orally’, from the Latin term *per os*. Other abbreviations have turned into hybrid forms through their combination with English terms (HbCV, Haemophilus influenzae b conjugate vaccine; HbPV, Haemophilus influenza polysaccharide vaccine).

Acronyms have become popular for saving time and space in naming diseases, devices, places or procedures, such as: ADHD- attention deficit hyperactivity disorder; AIDS- acquired immunodeficiency syndrome; BMI- body mass index; CPR- cardiopulmonary resuscitation; CT- computed tomography; DNA- deoxyribonucleic acid; ER -emergency room; HIV- human immunodeficiency virus; ICU- intensive care unit ; OR- operating room; MERS- Middle East respiratory syndrome; SARS - severe acute respiratory syndrome; SARS-CoV-2- severe acute respiratory syndrome coronavirus 2. COVID-19/ CV-19/ CV19 represents the contraction the noun phrase *coronavirus disease* defining a mild to severe respiratory illness that is caused by a coronavirus and the cardinal numeral 2019 which highlight the time frame when it was first identified in Wuhan, China, December 2019.

3.4. Medical Eponyms

In Crystal’s opinion neologisms are inextricably linked to language evolution, thus to special languages, “moreover, scientific vocabulary requires continual updating in the light of the process of discovery. Science is in fact the main birthplace for new words in a language” (Crystal, D., 1997: 384). They express ideas that are new or associations with an object or a concept that their acceptance involves acceptance of the words used to denominate them.

Eponyms are considered to be the highest level of acknowledgment in science. Medical eponyms refer to “any syndrome, disease, lesion, surgical procedure, clinical sign or medical technique that bears the name of the author who first described the entity, or less commonly the name of the index patient in whom the lesion was first described” (Segen 1992:197). They reveal a long-standing tradition in this scientific field

because they honour a prominent physician or scientist who played a major role in the identification of a disease or the discovery or development of procedures and operations. Dirckx (1983: 79) explains that “except for Linnaean taxonomy and perhaps geography, no system of nomenclature ever devised contains as many names of things derived from names of persons, as does the language of medicine.” They may be used as neutral terms hiding distressing aspects of a disease under certain circumstances, i.e. the term *Down’s syndrome*, a genetic disorder causing developmental and intellectual delays, named after the English physician J.L.H. Down (1828-1896), entered the language of medicine in 1961 replacing the previously out of date term of *mongolism*, as the disorder has no relationship to Mongolian or Asian heritage because it can occur in any ethnic group.

Medical eponyms may take the possessive form, generally employed with eponyms deriving from a single physician, for example *Alzheimer’s disease*, named after Alois Alzheimer who first described the progressive degenerative disease of the brain that leads to dementia; *Asperger’s syndrome*, a disorder related to autism characterized by obsessive interests and behavior; *Bekhterev’s disease*, malignant disease of the bone; *Crohn’s disease*; *Cushing’s disease*; *Hodgkin’s disease*, the syndrome of enlarged lymph nodes associated with enlarged spleen; *Parkinson’s disease*, *Tourette’s syndrome*, a neurological disorder of variable expression that is characterized by recurrent involuntary tics involving body movements and named after French physician Georges Gille de la Tourette ((1857- 1904). The surname of the German physician Karl Adolph von Basedow is found in the eponymous expressions *Basedow’s coma/syndrome/disease (ocular) syndrome*, *Jod-Basedow phenomenon* (Dirckx, 1983). When the eponym derives from two or more physicians/ proper names is usually hyphenated, for instance *Blount-Barber disease*, *Anderson-Fabry disease*, *Favre-Durant-Nicholas disease*, *Charcot-Marie-Toot disease*, a genetic disease of nerves that is characterized by progressively debilitating weakness, particularly of the limbs neuropathic muscular atrophy or *Wolff-Parkinson-White syndrome* that is a condition caused by an abnormality in the electrical system of the heart. Eponyms may also take an adjectival form: *addisonian syndrome*, *addisonian anemia* or *addisonian crisis*, named after the physician T. Addison (1795-1860); *Caesarean section*, a procedure in which an infant is surgically removed from the uterus, named after Julius Caesar.

Toponyms represent a distinct category where a generic name is preceded by the name of the place in which the phenomenon (disease, virus, bacteria, or genetic mutation) was first observed, usually named in recognition of the places of the first recorded outbreaks. The placename may be the name of a

Danish island *Bornholm disease*, a viral infection; *Aland eye disease*, named after the Aland Islands in the Baltic Sea a town *Manchester operation*, *Amsterdam syndrome*, *Delhi Belly*, *Stockholm syndrome*; a river in southwest Alaska *Kuskokwim disease*; *Ebola virus disease*, named after Ebola river in Congo; a region *Aden ulcer*, tropical ulcer, from Aden, Yemen, where it first occurred; *Bourbon virus*, identified in Bourbon County, Kansas, USA; *Kyasanur Forest disease*, India; *Thogoto virus*, the name comes from Thogoto Forest in Kenya, where the virus was first discovered; *Zika virus*, named for the Zika Forest of Uganda, where it was first found; a generic place *Chinese restaurant syndrome*; *Persian Gulf* or *Gulf War syndrome* where the place name refers to a certain pathological state determined by a dramatic event.

In addition, a group of medical eponyms are defined as mythonyms, medical terms based on Greek, Roman or other classical myths. Mythonyms were coined from late Renaissance to the 19th century. Mythonyms may refer to special features of mythological creatures or to mythological stories such as in the following selection: *Achilles' heel/tendon*, a tendon that attaches the calf muscle to the back of the heel bone or Achilles tendonitis named after the hero Achilles who was invulnerable to injury except for his heel; *Adam's apple*, the largest cartilage of the larynx named after the biblical story of the forbidden fruit that stuck in Adam's throat; *Electra complex* in reference to a daughter who feels attraction toward her father and hostility to her mother; *hermaphrodite*, possessing both male and female reproductive organs, or structures, derived from a proper name, the son of Hermes and Aphrodite, who was intensely loved by a nymph and consequently, they were united combining male and female body features; *Minerva jacket*, a plaster of Paris body cast incorporating the head and trunk, usually for fracture of the cervical spine, named after Minerva who was the Roman mythological goddess of poetry, medicine, craft, commerce and wisdom; *morphine*, a chief alkaloid of opium used as a narcotic pain-killer, coined in reference to the Ovid's name for god of dreams, Latin *Morpheus*; *Oedipus complex*, the positive feelings of a child toward the parent of the opposite sex and hostile or jealous feelings toward the parent of the same sex; *panacea/ panaceum*, a hypothetical medicine which is able to cure all disorders, named after Panacea, the goddess of universal health; *venereal disease*, a contagious disease that is typically acquired in sexual intercourse, from Latin *venereus*, *venerius*, 'of Venus; of sexual love'; *Satyr ears*, an inborn abnormality characterized by abnormal ears, the auricle lacking of rolled contour, named after Satyr, a mythological male companion of the Greek god Pan etc.

4. Conclusion

Medical terminology is constantly developing as the result of scientific research and use of modern approaches and procedures in dealing with patients and diseases. Therefore, precise and monoreferential terminology should improve the effectiveness of health information exchange. An adequate knowledge of the Greek-Latin core of medical terms as well as of the development of modern technology and medical sciences would certainly increase professional expertise in this specialized type of language.

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