Investigating Translation Peculiarities in Medical Discourse

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دراسة خصوصيات الترجمة في الخطاب الطبي

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المستخلص

تهدف هذه الدراسة إلى استقصاء الخصائص الرئيسية المتمثلة في سمة معينة للخطاب الطبي ذات العلاقة بالمفردات ، ألا وهي المصطلحات الطبية التي تؤثر تأثيرا مباشرا في عملية ترجمة النصوص الطبية. تشتمل البيانات على أربعة نصوص طبية إنجليزية مختارة من الموقع الإلكتروني (Cleveland Clinic). وتناقش الدراسة ثلاث قضايا اساسية ذات صلة بالمصطلحات الطبية. تتعلق القضية الاولى بتداخل المعاني المشتركة مع المعاني المتخصصة. أما القضية الثانية فتهتم بمستويي المصطلحات الطبية: المصطلحات الطبية عالية التخصص والمصطلحات الطبية العامة. أما القضية الثالثة، فتناقش استخدام الاضافات اللاتينية واليونانية والتي تعد سمة تمتاز بها المصطلحات الطبية تميزا خاصا. ولتعزيز الأفكار المقدمة، عرضت الدراسة الخلفية النظرية ذات الصلة. تفترض الدراسة أن المصطلحات هي أحد التحديات التي يواجهها المترجمون المتخصصون في الترجمة الطبية بسبب الطابع التخصصي العالي للخطاب الطبي. وخلصت الدراسة إلى أن المعرفة المتخصصة بالمصطلحات الطبية أمر لا غنى عنه لتحقيق ترجمات طبية احترافية وعالية الجودة. وعلاوة على ذلك، من الضروري أن يظل المترجمون الطبيون مطلعين على أحدث التطورات في المجال الطبي والمصطلحات ذات الصلة.

كلمات مفتاحية: خصوصيات الترجمة، الخطاب الطبي، المصطلحات، الترجمة الطبية، الإضافات

Abstract

This study aims at investigating the major peculiarities represented through one particular lexical feature of medical discourse, namely, medical terminology that directly affects the process of translating medical texts. The data comprise four selected English medical texts from the website: Cleveland Clinic. Three basic issues related to medical terminology are discussed. The first issue relates to the interference of common meanings with specialized meanings. The second issue concerns the two levels of medical terminology: highly specialized medical terms and general medical terms. As for the third issue, it deals with the use of Latin and Greek affixation which is regarded an especially distinguishing feature of medical terminology. To reinforce the ideas presented, relevant theoretical background is provided. It is hypothesized that terminology is one of the challenges faced by translators who specialize in medical translation due to the highly specialized character of medical discourse. The study concludes that a specialized knowledge of medical terminology is indispensable to accomplish high – quality and professional medical translations. Moreover, it is essential for medical translators to stay updated with the latest advancements in the medical field and the relevant terminology.

Keywords: Translation Peculiarities, Medical Discourse, Terminology, Medical Translation, Affixation

1. Introduction

Being an important field of knowledge, medicine has witnessed an increased technological and scientific advancement. Therefore, a plenty of new terms are incorporated within the medical lexicon annually. As a consequence, the sphere of medical knowledge undergoes a process of expansion to an extremely vast extent. According to Dzuganova (2002:227), medicine has experienced "great specialization and differentiation into individual branches" during the last two centuries. Such being the case, new specialized terminologies have to be created so as to stand for the terms to be used in these different branches. Such an enormous development in the medical field necessitates additional growth of the medical language. Mićić (2013:219) affirms that it has become fundamental to create brand-new terminologies for the new diseases, disorders, medical branches and "terms for state-of-the-art technology". Interestingly, Dobrić (2013: 493) calls for introducing "medical linguistics" as an individual field of linguistics since the language of medicine represents an immense field of research. Consequently, medical translation becomes a persistent daily need to cope with the huge amount of medical documents, articles, booklets and textbooks. As stated by Guner (2020:341), it might be said that in the medical discourse, billions of words are being translated day-to-day all over the world. It has been stated by Yaseen (2013: 58) that medical translation acts in accordance with the similar patterns like any other type of "technical translation" since it is regarded "a branch of specialized translation". As a result, the medical translator ought to acquire adequate information concerning the subject matter in order to arrive at the highest degree of accuracy. According to Alhussaini (2021:12), there is a persistent problem concerning whether to classify medical translation as being "scientific" or "technical". It can

be argued that a medical text can present both scientific and technical information, and for this reason the two definitions of 'science' and 'technology' can be applied on medical texts.

Since the health and the life of the people represent the primary consideration, medical translation is believed to be exceedingly specialized and crucial. Inadequate or erroneous translations can have negative, serious, or even fatal consequences. Medical translation, therefore, requires highly specialized translators who treat terminology with great caution and give the accurate translations of the distinct phrases and terms used in the medical discourse. In the translation process, the translator can also consider the lexical structure and grammatical structure of the terms required to be rendered into TL (Ibrahim, 2021: 685). (Steiert & Steiert, 2011: 27) confirm that medical translation is a challenge which should not be taken by every translator. It has been described by Browne (2016 :121) as "one of the most difficult translations" due to the fact that not only an outstanding knowledge of English is required, but an excellent knowledge of medical terms is highly needed. Long before, medical translation was described by Newmark (1979:1407) as being "no less difficult and challenging than that of poetry". Medical translation has further been described by Warambo & Odero (2015: 36) as being a "very unique" specialized translation whose complexity is attributed to the fact that the information presented "may result in life or death". In view of Ageicheva & Rozhenko (2019: 3), medical translation can be included within the most challenging specialized translations that may be named as "a special type of translation activity".

2. Methodology

The method adopted to analyze the data in this study is descriptive and qualitative which, according to Regoniel (2023), refers to a type of analysis that "explores the characteristics of a phenomenon, rather than explaining the underlying causes or mechanisms". The data comprise four selected English medical texts from the website: Cleveland Clinic. The reason behind choosing this particular website is that it can be regarded a useful source to provide medical information not only for patients, but for the general public and for the healthcare professionals as well. As such, it meets the needs of the present research in presenting highly – specialized terminology alongside common terminology. Some online references have been used to provide the accurate meanings for the selected medical terminologies including: (Webster's New World Medical Dictionary, 2008), (RxList.com), (Etymonline.com), (globalrph.com), and (Taber's Medical Dictionary Online).

3. Medical discourse

Discourse plays a vital role in medicine, and as such, medical discourse emerged as a means of communication among professionals in the medical field on one hand, and between those professionals and the public on the other hand. For the simple fact that it has an impact on everyone's health and quality of life, medicine has always held a significant position in all cultures and eras. Additionally, as seen by the rise in the publications concerned with the study of medical discourse, medical communication has grown to be an important part of contemporary society. A growing number of both written and oral analyses of medical discourse have been published in numerous journals. Being a type of scientific discourse, medical language contains texts that demonstrate how medical information is shared between experts and laypeople. Numerous

study areas may be explored in relation to the similarities and differences between these two linguistic levels. Medical discourse can be deemed an appealing area of research for the linguist. Vihla (1998: 79) asserts that there are many fascinating research prospects in medical discourse including the method in which language is used to form hypotheses, the distinctions between professional and non - professional language, and the link between language structure and prior knowledge. Rask (2008:17) believes that since the field of medicine is always developing and making new discoveries, medical discourse will constitute a difficult undertaking for the future that needs ongoing study. Gotti (2015:6) confirms that researchers from several disciplines have studied the subject of medical discourse and it has undergone extensive research in the previous decades across many linguistic subfields. Similarly, Ordóñez-López and Edo-Marzá (2016:1) state that medical discourse studies have witnessed a growing interest from a wide variety of prospects and in a broad range of contexts.

Since various modes of communication are included within medical discourse, it has been described by AL-Sulaimaan and AL-Haj Qasim (2006:8) as "a very complicated variety of language" which is both difficult and risky. It is a specific discourse in which three elements are highly important, namely, "the user, the domain of use and special application of language" (Karwacka, 2015: 272). Depending on the communicative setting and the participants, and by having distinctive qualities that change from one genre to another, medical language is employed as a means of communication among professionals and between the professionals and the public. As pointed out by Gotti (2015:5), there have been significant variances in medical discourse over the past few years resulting from specific variables including cultural considerations, professional knowledge and common conventions.

4. Brief Overview of the Development of Medical English

Historically, Greek and Latin were the two languages that characterized the language of medicine. As has been stated by Džuganová (2019:129), medical language, used by medical specialists through their daily communication, has undergone more than 2,500 years of evolution and has been primarily inspired by Greek and Latin medical established practices. Latin and Greek were widely popular languages at the time, therefore many medical terms and lexemes were derived from them. McMorrow (1998: 14), (cited in Karwacka, 2015:273), states that "Greek and Latin shaped the conventions of scientific (not only medical) writing for over 2000 years". On the other hand, Fischbach (1998), (also cited in Karwacka, 2015:273), holds the opinion that Latin was deemed the leading medical language during the 2nd century, whereas Greek continued to be used by medical students till the 3rd century . Džuganová (2002: 223) asserts that Greek was the earliest language to have had a significant impact on the growth of medicine in Europe. Although medical language was founded (on almost equal basis) on Greek and Latin terminology, it has been confirmed by Dobrić (2013:495) that now and then, Greek roots are being used more than Latin roots as they can "offer more possibilities with coining new words, especially compounds".

Presently, English has been considered the dominant language of medicine as a result of the enormous growth in medical science and its practices. Vihla (1998: 79) emphasizes that English language "enables communication in the medical researchers' international and heteroglossic sphere". Mićić (2013:217) points out that medicine nowadays has "transgressed the boundaries of the Greco-Latin terms" in order to coin new terminologies to cope with the global advance in medical science and technology. Similarly, Dobrić

(2013:493) affirms that English has become the language used in worldwide medical conferences, and as such, medical terminology frequently comprises words of English origins. Džuganová (2002: 223), believes that English is increasingly making use of its language for the sake of coining new terminology. Dobrić (2013:496) confirms that English is currently used as the language of the most prominent journals on medicine. A great amount of technological, scientific, as well as academic information is either presented or published in English on a global scale. Hence, medical professionals prefer to use it in global communication. Pilegaard (2000: 7), (cited in Mićić, 2013:219), highlights that "English has become the lingua franca of medicine and most scientific fields since 95% of medical papers come from English speaking countries". Consequently, English today plays an outstanding role as the international medical language since the world of science is obviously dominated by English-speaking professionals. According to Mićić (2009: 26), the superior role of the United States of America during the last thirty years of the 20th century in technology, in general, and medical technology, in particular, enabled English to be very quickly "exported from and imported into many languages". Cargill & O'Connor (2006), (cited in Džuganová, 2019: 136), assert that it is quite useful to motivate both medical professionals and students to learn English, for it acts as a means through which universal knowledge is shared. Becoming the "lingua franca" in medicine, English has been widely studied. The study of English for Medical Purposes (EMP) has become a priority in medical education (Džuganová, 2019: 137). Owing to the fact that recent expansion in technology in the developed countries has resulted in the emergence of new domains which necessitate the coinage of new terminology, English becomes an "International Language Medium for Learning Medical Sciences" (Abdelmajd & Hassan, 2017:86). According to Al - Tameemi (2020: 76), EMP has

emerged as a result of the demand for English to be used in medicine as the professional language, and being a notable field of study, it has acquired an outstanding position over the last decades.

5. Medical Terminology

In order to look closely into the peculiarities that characterize the translation of medical discourse, it is essential to go through the features which represent this specific discourse. It can be observed that analyzing the lexical, syntactic, semantic and textual changes that the medical field has witnessed over the centuries has been abundantly investigated in many studies throughout the past decades. However, as Gotti (2015:7) remarks, researchers in recent years have carried out more "innovative approaches" based on new methodologies which are derived from linguistics and diverse related fields. As pointed out by Guner (2020: 341), it is essential for the process of medical translation to identify the most suitable translation strategies after determining the prominent features of medical texts and detecting those issues that can be rather problematic for translators. However, the aim of the present study is not to delve into the translation strategies but to concentrate on medical translation peculiarities represented through one particular lexical feature of medical discourse, namely, medical terminology.

Historically, medical terminology is looked upon as "one of the oldest specialized terminologies in the world" (Džuganová , 2019:131). It is treated as that linguistic discipline which has been investigated from historical, morphological, semantic and syntactic aspects. Medical terminology can be defined as a collection of terms whose function is to give an accurately scientific description of the human body and its operations (Browne, 2016:122). As for Hassoun (2019:112), he believes that medical terminology is that particular

language which is used by "learners, specialists and experts of medicine and health sciences".

Regarding the modern medical terminology, it has been described by Navruzova (2021: 136) as "a complex system of expression, storage and transmission of special medical and paramedical terms". The modern medical terminology is developing in a dynamic way as a result of the ongoing development of medicine and medical science globally. As a result of the progress in scientific research, it can be said that medical terminology "has been constantly evolving, updating and improving" (Uherová & Horňáková, 2013:637). In the same vein, Džuganová (2019:129) states that medical terminology represents a wide and constantly unstable phenomenon and often new meanings are acquired. It has been correspondingly pointed out by Tolkinovna (2022:78) that the vocabulary of the modern medical language is exceptionally diverse, and that medical terminology represents the basis of medical language and its "organizing structural component".

As far as the translation of medical terminology is concerned, medical translators encounter a great deal of medical terminology in the course of their work and are confronted with various problematic issues. A different view is presented by Fischback (1986), (cited in Alhussaini, 2021:14), who believes that "translation in the field of medicine carries fewer problems than other varieties of scientific translation". His justification is based on the fact that being a universal subject, medicine exhibits a great amount of available references and that medical terminology shows much resemblance among languages, "especially Western ones". By the same token, Yaseen (2013: 58) maintains that some scholars claim that no difficulty is observed in the translation of technical terms (including medical terms) whose meanings can easily be found in bilingual dictionaries. However, choosing the accurate equivalence that fits the

context may not always be accessible. As asserted by Enríquez de Salamanca (1996: 92), it is very likely that anyone who encounters medical terminology for the first time will find it quite challenging. Ageicheva & Rozhenko (2019: 1) believe that numerous difficulties are expected to be faced by medical translators, among which are medical terminology and lexical equivalence. Similarly, Montalt and Gonzalez (2007),(cited in Argeg, 2015:62-63), have previously stated that a lot of time is usually spent during the translation process in recognizing and figuring out terminological issues. Rask (2008:3) points out that the field of medical translation exhibits many significant phenomena, "first and foremost terminology". Yaseen (2013:1) believes that the medical translator has to do with what is named medical language "which differs from everyday language in the specificity of its terminology". Argeg (2015:86) has repeatedly confirmed that what causes the most problematic issue in translating medical discourse is medical terms, and that more problems are expected to arise in translating the medical terms into the target text with the increase of them in the source text. Hassoun (2019:112) argues that medical language is the most difficult in comparison with the other specialised languages used in other fields and that terminology has been regarded as one of the challenges encountered by translators and also by medical students learning medical English. Furthermore, Ageicheva and Rozhenko (2019: 3) believe that among the reasons that make medical translation complex is "the huge and promptly growing vocabulary of medicine". Medical texts have been described by Yaseen (2013: 58) as being loaded with medical terminology which should be translated meticulously. Guner (2020:341-349) assumes that it is a prerequisite for the medical translator to deal with terminology and advises him / her to work firstly on the terminology by making a terminological analysis of the source text. Moradi and Jabbari (2020:544) state that medical

terminology can be quite challenging to translators as a result of the unceasing advancement in the medical language. It has also been affirmed by Guner (2020:340) that being a branch of technical translation with its peculiar dynamics influencing the process of translating, medical translation constitutes a task full of challenges for the translators. Medical discourse exhibits peculiar lexical, stylistic, syntactic and semantic features that make translation rather complex and challenging.

To achieve an accurate translation of medical terms, a specialized knowledge in medical terminology is required so as to decrease the hazard of miscommunication in the health field settings. It can be stated that a specialized knowledge of medical terminology is indispensable to accomplish high – quality and professional medical translations. AL-Jarf (2018:104) asserts that in order to achieve translation accuracy, it is fundamental to understand the exact meanings of key medical terms and select their corresponding suitable Arabic equivalents. As outlined by Al-Jubori (2022:122), medical translation deals with many terminologies and affixations whose translations demand the highest level of adequacy and accuracy.

To highlight the difficulties accompanying the translation of medical terminology, three basic issues related to medical terminology which directly affect the process of translation are discussed in the following sections.

5.1 Common Meanings and Medical Meanings

One of the problematic issues related to terminology is that words gain specific medical meanings distinct from their generally known meanings. While used in medical contexts, words can acquire different meanings from their common meanings. As pointed out by Lungu, et al. (2015:14), specialized terms are regularly obtained from

"general lexicon" and have undergone a process of redefinition so as to be utilized in a specific context. In the same manner, Browne (2016 :124) confirms that many terms change their general meanings into more specific meanings when used in medicine. Ahmad (2012:50-51) gives two examples to highlight this point, namely, the words "Benign" and "Conceive". These two examples and the other examples collected from the data used in this study are listed in Table

Table (1): Common Meanings versus Medical Meanings

Examples	Common Meaning	Translation	Medical Meaning	Translation
"benign"	"pleasant and kind"[1]	ودود / كريم	"a condition, tumor, or growth that is not cancerous" [2]	ورم حميد (ورم لا يغزو الأنسجة التي ولا نشأ فيها يدمرها)
"conceive"	"to form a notion or idea of; imagine"[3]	يتصور / يتخيل / يفهم	"the onset of pregnancy"[4]	تصبح الانثى حبلى
"developing"	"undergoing development; growing; evolving"[5]	ينمو / يتطور	"if you develop a disease or illness, or if it develops, you start to have it" [6]	الاصابة بالمرض
"compromising"	"a way of reaching agreement"[7]	تسوية / حل وسط	"unable to function optimally"[8]	عدم القدرة على العمل على النحو الامثل
"delivery"	"the act of taking goods, letters, parcels, etc. to people's houses or places of work"[9]	توصيل / تسليم	"The act of giving birth"[10]	انجاب / ولادة
"irritated"	"angered, provoked, or annoyed"[11]	غاضب، مستَفَز، منزعج	"inflammation or soreness of a bodily organ or part"[12]	تهيج
"strictures"	"a statement of severe criticism / a severe moral or physical limit"[13]	تقييد / نقد لاذع	"an abnormal narrowing of a body passage, especially a tube or a canal"[14]	تضيق
"labor"	"practical work, esp. work that involves physical effort"[15]	العمل وخاصة الذي ينطوي على جهد بدني	"childbirth, the process of delivering a baby"[16]	المخاض

It may be expected that less professional translators may rely on their familiarity with the general meanings of such words and even be unaware of the specific medical meanings that these words acquire. Consequently, misunderstandings will result and the final translation version will sound unacceptable. If translated literally, those common words with specific medical meanings will result in producing a functionally inadequate Arabic version. As stated by

Berghammer (2006:41), medical terminology incorporates plentiful words with common meanings which can pose a challenge for the translator as they gain extended senses when used in medicine. Lungu, et al. (2015:12) have emphasized that when common meanings interfere with specialized meanings, a difficulty is expected to arise throughout the process of "decoding of terminological units". It is the task of the medical translator, then, to recognize such words and render their medical specific meanings accurately in the target language. The translator, then, is facing a very big responsibility since his / her work can have a significant direct influence on the medical condition and health of humans.

5.2 Two Levels of Medical Terminology

The second characteristic feature of medical terminology is that some words in medical English are used with different terminology than that used in general English. General medical terms are often found in advertisements and leaflets to be read by lay people. Highly specialized medical terms, on the other hand, are usually used by doctors in their medical reports. As has been stated by Karwacka (2015: 272), medical terminology can be classified into two levels with regard to the participants in the communicative situation: "expert-expert and expert-lay communication". For the former, scientific medical terminology is used, while general medical terminology is prevalent in the latter so as to be comprehended by laypeople. Argeg (2015: 63) argues that one of the basic problems facing the medical translator is his / her unfamiliarity with such scientific – and to some extent – complex medical terms. It has been remarked by Askehave & Zethsen (2000:69) that using terminology "specific to a discipline" can be looked upon as one of the main aspects of special language. Such terminology, therefore, is typically used by the specialists in the particular discourse. The examples

collected from the data in Table 2 show the general medical terms which are written alongside their corresponding scientific medical terms in the data.

Table (2): General Terms versus Scientific Medical Terms

General Term	Scientific Medical Term	Translation
liver inflammation	hepatitis	التهاب الكبد
yellowing of the skin and eyes	jaundice	اليرقان
itchy skin	pruritis	حكة
enlarged spleen	splenomegaly	تضخم الطحال
belly	abdomen	بطن
cancer in the blood	leukemia	سرطان الدم
womb	uterus	رحم
excessive bleeding	hemorrhage	نزف
bowels	intestines	امعاء
pregnancy	gestation	حمل
indigestion	dyspepsia	عسر الهضم
the stomach lining	mucosa	الغشاء المخاطي الذي يبطن المعدة
tissue sample	biopsy	خزعة
shortness of breath	dyspnea	ضيق التنفس
small sacs in the lungs	alveoli	الحويصلات الهوائية
the larger airways	trachea and bronchi	القصبة الهوائية والشعب الهوائية
the smaller airways	bronchioles	القصيبات
enlarged liver	hepatomegaly	تضخم الكبد
a large baby	fetal macrosomia	عملقة جنينية

It is noteworthy that all the examples listed in Table 2 above are illustrations of the occurrence of the two levels of medical terminology next to each other within the same text. This procedure, as stated by Askehave & Zethsen (2000:69), is sometimes made by the authors in their attempt to make it easier for the readers to

understand the meanings of the highly – specialized medical terminologies by using more general terms or even giving a simple definition of the medical term.

It is essential for the medical translator to have a good knowledge of the equivalents of such highly – specialized medical terms like (jaundice, dyspepsia, hepatitis, pruritis and dyspnea) in Arabic in order to make his / her translation sound as much natural as possible as the source text. According to Txabarriaga (2009:3), it is a prerequisite for a professional medical translator to keep on conducting a terminological research so as to assess the validity of equivalents in the target language by having an up-to-date knowledge about medical terminology. As a consequence, the medical translator becomes acquainted with the Arabic specific equivalents of the highly – specialized medical terms and provide the suitable corresponding Arabic equivalent. The medical term "jaundice", for example, is the scientific medical term for the "yellowing of the skin and eyes". The medical translator should be aware of its corresponding Arabic equivalent, which is "اليرقان", so as to make his translation as highly scientific as the original. Otherwise, he / she would rather opt for using the general term, namely, " اصفرار الجلد والعينين", if his / her aim is to translate for laypeople. The same applies to other scientific medical terms like "alveoli", whose corresponding Arabic counterpart is "الحويصلات الهوائية", whereas its general term is "small sacs in the lungs", which can be translated into " أكياس صغيرة في الرئتين" for laypeople. Eventually, it is the translator's decision to make his / her final translated version communicatively targeting experts or laypeople. Alhussaini (2021:16) believes that the medical translator may adopt various procedures including "simplification and using less-specialised terminology and/or explanations" so as to establish an appropriate communicative situation for the intended readers. In this regard, Guner (2020:344) maintains that using

borrowing (as in translating "jaundice" into its Arabic counterpart "اليرقان") is highly recommended in the translation of medical texts written for professionals, but it is not a suitable method in the case of translating medical texts written for laypeople. According to Halimah & Almakhyatah (2023:178), it is essential for medical translators to make the translation "as close as possible to the local language of the target readers". The medical translator, therefore, must be able to recognize the most accurate equivalents to be used in each particular translation situation. Likewise, AL-Jarf (2018:110) stresses the fact that it is important for the translator to take into account if the intended audience is "a specialist or non-specialist".

The importance of choosing the suitable equivalents for medical terminology in terms of the intended audience has further been emphasized by other researchers. Huang (2013), (cited in Alhussaini, 2021:142), affirms that translating medical terms "automatically into their literal equivalents" by nonprofessional translators may lead to producing translations which

can be described as being "not functional". Guner (2020:350) explains that medical texts have to be translated in accordance with the relevant "registers". If not, such translations may sound complicated and even confusing for the target readers. It follows that less specialised terms or more familiar terms may sometimes be used as translation options for the highly –specialised terms in order to attain simplification. Fischbach (1962), (cited in Alhussaini, 2021:16), maintains that medical translators are allowed to depart from the source text if the aim is to transfer the information as plainly as possible to the target readers. Similarly, Askehave and Zethsen (2000:70) suggest alleviating the degree of complexity by using common terms so as to "adapt the language to the target group". They further claim that if it is deemed necessary for the target reader to

know the scientific medical term, it could once be put in brackets alongside the common term. Yaseen (2013: 134) recommends the use of "couplets" in translating medical terminology, namely, using two translation procedures for one term. In other words, the Arabic specialized equivalent term is given alongside its description (represented by its common meaning). In this way, it can be guaranteed that the translation will sound satisfying for both users; specialists and non-specialists. Consequently, accuracy and precision for specialists can be achieved and, at the same time, comprehensibility for non-specialists can be ensured.

5.3 Prefixes and Suffixes

The third lexical feature peculiar to medical discourse and which can pose a problem to translators is the fact that medical texts are characterized by including Greek and Latin derivations, prefixes and suffixes. Uherová & Horňáková (2013:632) explain that the present medical terminology is affected by Latin and Greek languages, and that Latin was known as "the language of science" till the 19th century. It has also been stated by Yaseen (2013: 22) that whenever medical terminology is mentioned, what comes firstly to mind is "the terms of Greco-Latin origins as they comprise the substantial part of the overall lexical body of medical knowledge". Medical English can be said to incorporate a great number of words having complex morphological structures which are made up of Greek and Latin affixes and roots. According to Pavel (2014:44), prefixes and suffixes are the most predominant elements used in the formation of Latin and Greek words. It has been affirmed by Karwacka (2015: 274) that Greek and Latin terminology is the basis of the modern medical language. Similarly, Tolkinovna (2022:78) confirms that many eminently specialized medical terms represent "lexical units based on classical, standard Greek-Latin term elements". It has also

been previously affirmed by Browne (2016 :122) that medical terminology is frequently based on the idea of "word roots, prefixes and suffixes". The use of Latin and Greek affixation is regarded an especially distinguishing feature of medical terminology (Karwacka, 2015: 277).

Medical terms are mostly made up of two or more parts that have meanings, i.e., morphemes. Roots, prefixes and suffixes represent these word parts and the majority of them are originally Greek or Latin. The primary meaning of a medical term is found in the word root. Roots usually refer to a body part or a system. As outlined by Browne (2016 :122), Latin roots are generally used for words "describing anatomical structures" while Greek roots are often used for those words "describing a disease, treatment or condition". A prefix is that part of the word having meaning and which is found at the beginning. According to Argeg (2015:66), the function of prefixes is usually to modify, change or add to the meaning of the root, whereas Browne (2016 :122) states that a prefix not only changes the meaning of the word but it can also describe "a position, direction or negation". Džuganová (2019:138) holds the view that a great deal of medical terminology in the clinical fields to describe negative symptoms, signs, abnormalities, and illnesses bear an explicit negative meaning indicated by using negative prefixes, most of which are of Greek or Latin origin. The meanings of some prefixes are simple and intelligible due to the fact that some prefixes found in medical terminology are familiar and their meanings are generally known in common English language. The meanings of other prefixes, however, are rather more difficult to discern. The former pose no difficulty in translation, whereas the latter are rather problematic. Examples of the first kind of prefixes are: "in-, dis-, anti-, non-". These prefixes and others are illustrated in Table 3 below. Less familiar prefixes are listed in Table 4

Table (3): Familiar Prefixes

Prefixes	Meanings	Examples	Meaning	Translations
in-	"not, opposite of, without"[17]	"indigestion"	"inability to digest or difficulty in digesting food"[18]	عسر الهضم
		"incontinence"	"The inability to control excretions, to hold urine in the bladder"[19]	سلس البول
dis-	"apart, separate"[20]	"discomfort"	"an absence of comfort or ease; uneasiness, hardship, or mild pain"[21]	عدم ارتياح
"anti-"	"counteracting or effective against"[22]	"anti-inflammatory"	"used to control or reduce inflammation"[23]	مضاد التهاب
		"antibody"	"a substance produced by the body to fight disease"[24]	جسم مضاد
		"antibiotics"	"medicines that fight bacterial infections in people and animals"[25]	مضاد حيوي
		"antacids"	"medicines that counteract (neutralise) the acid in your stomach to relieve indigestion and heartburn"[26]	مضاد للحموضة
		"antivirals"	"A medication or another agent that kills viruses or inhibits their capability to reproduce"[27]	مضاد للفيروسات
		"antitussives"	"medicines capable of relieving or suppressing coughing"[28]	مضاد للسعال
"non-"	not	"nonsteroidal"	"not containing or consisting of steroids"[29]	غير ستيرويدي / اللاستيرويدي
		"noninfectious"	not infectious	غير معدي

		“nonmedical”	not related to medicine	غير طبي
“auto”	self	“autoimmune disorder”	“a misdirected immune system acts against the tissues of one’s own body”[30]	اضطراب المناعة الذاتية
“pro-”	“before, preceding,”[31]	“prognosis”	“The forecast of the probable outcome or course of a disease; the patient’s chance of recovery”[32]	توقعات سير المرض / فرصة تعافي المريض
“macro-”	large or long	“fetal macrosomia”	“a newborn who's much larger than average”[33]	عملقة جنينية[34]

Table (4): Less Familiar Prefixes

Prefixes	Meanings	Examples	Meaning	Translations
“endo-”	“within or inside”[35]	“endoscopy”	“examination of the inside of the body by using a lighted, flexible instrument called an endoscope”[36]	تنظير داخلي / باطني
“dia-”	“through, throughout or completely”[37]	“diagnosis”	“knowledge of the nature of a disease”[38]	تشخيص الداء
“myco-”	“a relationship to fungus”[39]	“mycoplasma pneumonia”	“bacteria that can cause illness by damaging the lining of the respiratory system”[40]	ميكوبلازما رئوية مفطورة رئوية/[41]
“dys-”	“bad, ill; hard, difficult; abnormal, imperfect”[42]	“dysfunction” “dyspepsia” “dyspnea”	“failure to function, abnormality or impairment of function”[43] “difficult digestion”[44] “difficult or labored breathing; shortness of breath”[45]	قصور وظيفي عسر الهضم ضيق التنفس
“ab-”	“away, from, from off, down”[46]	“abnormalities”	“outside the expected norm, or uncharacteristic of a particular patient”[47]	تشوهات

"ultra-"	"beyond or extremely"[48]	"an ultrasound device"	"high-frequency sound waves"[49]	جهاز الموجات فوق الصوتية
"an-"	"without, not, no"[50]	"anesthetics"	"a substance that causes lack of feeling or awareness, dulling pain to permit surgery and other painful procedures"[51]	مواد تخديرية
		"analgesics"	"a drug that relieves pain"[52]	ادوية مسكنة للآلم

As has been stated by Argeg (2015:66), understanding the prefixes found in medical terminology is very beneficial as it helps in dealing with the difficulties encountered in medical translation. Omer (2021: 35) also believes that recognizing some of the most familiar medical prefixes enables the translator to detect the meanings of the medical terms.

As far as suffixes are concerned, a suffix can generally be defined as an affix or a morpheme placed at the end of a word to make a new word. As far as medical terminology is concerned, suffixes often stand for a symptom, a surgical procedure or a pathology. (Browne, 2016 :122). Each suffix has its own distinctive meaning. The suffix "-pathy", for instance, means "disease", and when added to the word "neuro-", it forms the term "neuropathy", which means "nerve disease". The suffix "-itis" means "inflammation", and conditions like "colitis", "bronchitis", and "neuritis" mean "inflammation of the colon, airways of the lungs and a nerve" respectively. Medical suffixes are essential as they can serve as significant tools through which the meaning of medical terms can be figured out. It can be argued that it is useful for the medical translator to identify what each suffix means as this will enable him / her to determine the meaning of the whole medical term. Table 5 below is an illustration of the suffixes found in the data.

Table (5): Suffixes

Suffixes	Meanings	Examples	Meaning	Translations
"-itis"	"inflammation"[53]	"gastritis"	"inflammation of the stomach"[54]	التهاب المعدة
		"bronchitis"	" an infection of the main airways of the lungs (bronchi), causing them to become irritated and inflamed. "[55]	التهاب القصبات/ التهاب الشعب التنفسية
		"hepatitis"	"inflammation of the liver"[56]	التهاب الكبد
		" cholangitis"	"inflammation in the bile duct"[57]	التهاب القنوات الصفراوية
		"pericarditis"	" inflammation of the lining around the heart"[58]	التهاب التامور / التهاب غشاء القلب
"-megaly"	"abnormal enlargement of a body part "[59]	"hepatomegaly"	"an enlarged liver"[60]	تضخم الكبد
		"splenomegaly"	"abnormal enlargement of the spleen."[61]	تضخم الطحال
"-osis"	"a state of disease"[62]	" steatosis"	" fatty liver disease"[63]	مرض الكبد الدهني
		"mononucleosis"	" infection disease characterized by an abnormally high proportion of mononuclear leucocytes in the blood"[64]	تكثّر وحيدات النواة في الدم
		"hemochromatosis"	"an inherited disorder characterized by abnormally high	داء ترسب الصبغات الدموية

			absorption of iron by the intestinal tract"[65]	
"-oma"	"tumor"[66]	" hemangioma"	"a benign tumor formed by a collection of excess blood vessels"[67]	ورم وعائي حميد
		" adenoma"	"a benign tumor that arises in or resembles glandular tissue"[68]	ورم غُدّي حميد
		" lymphoma"	"a tumor of the lymphoid tissue"[69]	ورم لمفي
"-pathy"	"feeling, disease, a method of treating disease"[70]	" hepatopathy"	" any disease of the liver"[71]	اعتلال الكبد / مرض الكبد

It has been outlined by Guner (2020: 349) that Greek and Latin derivations, prefixes and suffixes are the predominant challenge for medical translators. To be unfamiliar with the "terminological units" is deemed by Hasturkoglu (2020:158) as a serious obstacle that has to be overcome by medical translators. A basic knowledge of Greek and Latin root words, prefixes and suffixes is, therefore, extremely important for medical translators so as to provide the readers with accurate information. Hassoun (2019:110) suggests that it is necessary to familiarize both translators and students with Greek and Latin terminologies which – when understood – the text sounds more obvious and intelligible and translation becomes better. While teaching specialized English, Enríquez de Salamanca (1996: 92) noticed that her nursing students were unaware of the fact that it is possible to divide medical terms into a number of parts. Rather, the students often attempt to comprehend the meaning of any medical term "in its entirety", ignoring that the learning of the meanings of the separate parts is more simple. For Al-Jubori (2022: 120), it is hard to comprehend the medical terms with no prior knowledge of the meanings of affixes attached to those terms as long as these affixes carry specific meanings and provide "a scientific reference" to the words they are attached to. Browne (2016 :122) has earlier stated that it can be quite helpful for the medical translator to acquire a basic knowledge of the way in which medical terms are constructed. By the same token, tackling Latin and Greek terminology has been considered "a prerequisite" for the medical translator in order to arrive at a satisfactory understanding of the intended medical meaning (Guner, 2020: 342). Mićić (2013:221) emphasizes that it is possible to analyze Latin and Greek- based terms from the roots, the prefixes and the suffixes, and this makes the meaning easily inferred. Argeg (2015:66) supports the idea that identifying the root and figuring out its meaning facilitates understanding the meaning of the

whole term. Therefore, when divided into their component parts, the medical terms are better understood and easily translated. Hasturkoglu (2020:165) suggests carrying out analyses of medical terms on the morphological level to acquire a "terminological competence". Such an analysis comprises the division of those terms into their basic components including the prefix, the root and the suffix. Familiarity with these components and knowing the meanings of them individually will facilitate translating them. It might be said that many of the medical terms are rather complicated and their meanings are hard to decipher. However, once their roots, prefixes and suffixes are identified and understood, they become easier to translate. To coin new words to name modern conditions and diseases, Latin and Greek root words are predominately made use of. Despite the fact that these root words can be used in various combinations according to the particular part of the body and the condition, their meanings will not change and can be easily figured out.

Argeg (2015:68) states that what assists in solving the problem of understanding medical terms in the source text is the translator's awareness of the meaning of each of their parts. She further asserts that after having some experience in medical terminology, the translator can find out that "the long and formidable sounding medical terms" are simply word combinations which are used to describe a part of the human body, a condition or a function. Consequently, to further broaden the translator's understanding of the medical terminology, it is essential to obtain a good understanding of both prefixes and suffixes. Similarly, Browne (2016, 123) states that some basic knowledge of Greek and Latin roots, prefixes and suffixes is very important for medical translators, and if such knowledge is not found, the process of translation might sound "impossible, or at least very difficult". As has been confirmed

by Hasturkoglu (2020:158-159), it is highly beneficial for medical translators to acquire a good knowledge of the manner in which medical terms are built and this in turn necessitates developing some "morphological skills". Gylys and Wedding (2009),(cited in Browne, 2016 :122-123), propose undertaking three stages of analysis to arrive at the precise definition of the medical terms. The first stage involves defining the end part of the term, namely, the suffix. In the second stage, the initial part of the term (which might be the root or a prefix) is defined. The third stage comprises defining the middle part or parts of the term.

While affixation is found in both English and Arabic, it is not similar in the two languages. As has been affirmed by Hassoun (2019:115), Arabic differs in its nature from the other languages, from which the medical terminology is derived, in several ways. In English, it is realized by simply adding prefixes or suffixes to the root word, and eventually a new word is created. When translated into Arabic, two or three words are used to transfer the exact meaning of a single English word. Karwacka (2015: 278) points out that the dissimilarities in affixation in different languages result in the variation "in semantic distribution observed in pairs of corresponding terms, with a multi-word term in one language". It has long been stated by Newmark (1979:1407) that the medical translator may use two words in the target text to convey the meaning of one word in the source text, or may even use three words to stand for one single word. All the examples listed in Tables 3, 4 and 5 are illustrations of this case, where single words are used in English and two or three words are used as their Arabic counterparts. Gauton (2008: 112) points out that while its equivalent in another language may only have one component, "a lexical unit in one language may have two or more components". Samy, et al. (2012:642) clarifies that Arabic employs "lexical composition" for medical terminologies, whereas

derivation through the use of Greek and Latin prefixes and suffixes is adopted in English. Therefore, a dissimilar approach to create equivalents is applied in Arabic. This process of translation has been referred to by Yaseen (2013: 61- 62) as "descriptive translation" in which two or more Arabic words are used as equivalents for English terms made up of single words. While used to a great extent in English as an essential word formation process, using suffixes and prefixes to form equivalents is lacking in Arabic. Karwacka (2015: 278) believes that this issue can be looked upon as "one of the crucial skills of medical translators". By the same token, AL-Jarf (2018:109) asserts that several words, rather than a single word, are frequently used as Arabic equivalents for the English medical terms consisting of prefixes, roots and suffixes. This can be attributed to the fact that the two processes of affixation, namely, prefixation and suffixation are not employed in Arabic in the same way as in English. Warambo & Odero (2015:44) affirm that the medical translator may prefer to be faithful to the linguistic forms in the source text, but the fact that languages display differences in form and grammar makes it not possible all the time.

Much attention is required on the part of the medical translator when carrying on the process of translation in the opposite direction, namely, from Arabic into English. It is the translator's duty to recognize that "multi-word terms" in Arabic are to be translated as single words in English via the use of affixation. As mentioned by Ying & Yumei (2010:350), it is absolutely necessary for medical translators to possess some basic knowledge in medicine, and a good knowledge of the corresponding translation techniques for terminology. Mićić (2013:229) explains that in order to produce an adequate translation, "contrastive competence" is indispensable. The translator may opt for using words or structures different from the

corresponding words or structures so as to convey a similar, if not the same meaning.

6. Conclusion

One of the disciplines that has seen increasing attention and demand is medical translation. An essential aspect in the process of medical translation is the translation of medical terminology. Medical terminology is one of the problems that translators run across. Terminology is one of the challenges that translators who specialize in medical translation must overcome given the highly specialized character of medical discourse. The significance of medical translation is enhanced when it is targeted at laypersons other than professionals. Medical translators have to be aware that the terminology they use in their translations actively participate in deciding how effective the communication of the medical information has been from specialists to laypersons. Medical translators should pay considerable attention to the disparities in the scientific knowledge between laypersons and specialists and never take it for granted that their target readers are familiar with highly – specialized medical terminologies. When translating for laypersons, it is advisable that more general terms replace highly – specialized terms so as to ensure that the information is efficiently communicated through translation and understood by the target readers. Another characteristic feature of medical terminology that is directly related to translation is that many words acquire new specialized meanings other than their general meanings when employed in medical discourse. The medical translator must recognize this interference between specialized and general meanings and look for the accurate equivalents. Furthermore, it is a prerequisite for medical translators to have a good knowledge of the meanings of the components of the medical terms. Being familiar with and having the ability to

understand the meanings of the most commonly used prefixes and suffixes will definitely facilitate the process of translating medical terminology. To achieve an accurate translation, it is crucial on the part of the medical translator to carry out an ongoing research to get acquainted with the latest terminology.

7. Notes

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3. https://www.dictionary.com/browse/conceive
4. https://www.rxlist.com/conception/definition.htm
5. https://www.dictionary.com/browse/developing
6. https://www.ldoceonline.com/dictionary/develop
7. https://www.britannica.com/dictionary/compromise
8. https://www.dictionary.com/browse/compromised
9. https://dictionary.cambridge.org/dictionary/english/delivery
10. https://medical-dictionary.thefreedictionary.com/delivery
11. https://www.dictionary.com/browse/irritated
12.https://www.collinsdictionary.com/dictionary/english/irritation#:~:text=(Pharmaceutical%3A%20Physiology),a%20bodily%20organ%20or%20part.
13. https://dictionary.cambridge.org/dictionary/english/stricture
14. (Webster's New World Medical Dictionary, 2008:404)
15. https://dictionary.cambridge.org/dictionary/english/labor
16. (Webster's New World Medical Dictionary, 2008:237)
17. https://www.etymonline.com/word/in-#:~:text=in%2D%20(1),*ne%2D%20%22not.%22
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30. (Webster's New World Medical Dictionary, 2008:37)
31. https://www.biologyonline.com/dictionary/pro-d63#:~:text=Pro%2D-,pro%2D,it%20is%20short%20for%20prothrombin.
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42. https://www.etymonline.com/word/dys-
43. https://www.etymonline.com/word/dys-
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61. (Webster's New World Medical Dictionary, 2008:398)
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65. (Webster's New World Medical Dictionary, 2008:192)
66. https://www.tabers.com/tabersonline/view/Tabers-Dictionary/732009/all/-oma
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