

Lexical and Syntactic Problems in the Translation of Truswell's *ABC of Nutrition* into Arabic: A Model for Medical Text

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Abstract

*This study aims at investigating the main lexical and syntactic problems encountered by Arab translators of medical texts. In order to achieve this goal, the researchers have translated into Arabic thirty pages of the English medical book **ABC of Nutrition** written by A Stewart Truswell. They found out translation problems related to terms, abbreviations, and syntax (word-order, sentence complexity, voice and adjectival clauses). However, the researchers used various strategies to solve lexical and syntactic problems and to find the most appropriate Arabic renditions for lexical items or whole sentences. This study finds out that to solve the translation problem of long medical sentences, the translator should opt for splitting long sentences into shorter ones whenever this is applicable. It concludes that to end up with an adequate translated medical text; the translator should be a specialist in medicine or at least be aware of medical terms and concepts and that transferring information and facts in scientific texts, particularly medical ones, is more important than transferring the style.*

Key words: lexical and syntactic problems;
medical texts; terms; abbreviations; and style.

1. Introduction

Language is a universal tool used in communication which plays an important role in developing civilization and in the progress of science and technology. However, difficulties arise when transferring information from one language into another. This research comes to fill a gap in the field of medical translation as there is much necessity for medical translation between English and Arabic and vice versa. This research is a humble attempt to fill part of the gap as it focuses on difficulties and challenges faced by medical translators and strategies used to solve linguistic problems namely, lexical and syntactic problems. The paper organization includes introduction, statement of the problem, purpose of the study, questions of the study, a glimpse on *ABC of Nutrition*, method, analysis and discussion, and summary, conclusions and recommendations.

Few studies have touched upon lexical and syntactic problems with respect to translating medical texts from English into Arabic. This study derives from a need to eliminate, reduce, or explain the main lexical and syntactic problems that are faced in many Arabic medical translations as opposed to their English originals.

It is significant as it tackles translational problems at a practical level. Lexical and syntactic problems and different strategies required to handle them are discussed after the researchers translated the English medical text into Arabic. This study might be considered as a new type of research as it deals with translational problems at both theoretical and practical levels.

This study highlights the main lexical and syntactic problems that arise from translating English medical texts into Arabic. In addition, it focuses on different strategies which are used to handle such problems.

This study attempts to answer the following questions: (i) What are the main lexical and syntactic problems which are encountered by Arab translators when translating English medical text into Arabic? (ii) What are possible solutions that could solve problems of translating medical terms?; And (iii) which sources could be helpful for translators to produce adequate medical translation?

2. A glimpse on ABC of Nutrition

This medical book is one of the British medical publications' ABC Series' which is a lively and up-to-date resource of knowledge for that in primary care, for trainee doctors and students. It does not deal with all aspects of human nutrition. It only deals with those that are useful in everyday medical practice. It has four editions (1986, 1992, 1999, and 2003). It consists of eighteen chapters about diets and its relation with some diseases. ***ABC of Nutrition*** is written by A Stewart Truswell, an Emeritus Professor of Human Nutrition at the University of Sydney.

3. Method

In this study, about thirty pages of ***ABC of Nutrition*** were translated. The translated texts covered topics about heart disease, blood pressure, and chronic diseases. The material was chosen as it includes technical terms, abbreviations, and medical jargon. Some main difficulties faced by Arab translators

translating medical texts from English into Arabic, in general, especially those encountered by the researchers in translating the present study's material into Arabic are discussed. The scope of the present study covers some main lexical and syntactic problems.

Terminologies, synonyms and abbreviations are examples on lexical problems. Medical synonymy is one problem arises when translating English medical texts into Arabic. In medical translation, the matter of synonymy is confusing as the translator feels perplexed about which word is a better equivalent. For example, 'myocardial infarct' can be confusing for translator. This term has more than one translation in Arabic but skillful translators are those who choose the better rendition. 'Myocardial infarct' can be translated as *ضعف عضلة القلب، جلطة قلبية، نوبة قلبية، احتشاء عضلة القلب، سكتة قلبية*. We can say that problems of technical translation from English into Arabic depend heavily on the translator's broad knowledge in the subject field and his intuition to choose the most suitable equivalent terms and expressions. Sometimes, it is difficult to find an equivalent of (SL) term in the (TL). For example, 'statins' is translated as 'الستاتينات' and 'carotenoid' as 'كاروتين'. In addition, the equivalent of the (SL) term is usually a phrase or a sentence in the (TL), such as 'LDL': 'البروتين منخفض الكثافة'.

Abbreviations in medical jargon cause problems in the process of translation as, usually, there is no ready equivalent abbreviations in the (TL). For example, the abbreviation (CHD) has no equivalent in Arabic; one strategy of its translation could be paraphrasing as 'أمراض القلب التاجية'. Another is its transliteration as 'سي اتش دي'.

Syntactic features of English medical texts cause problems for translators. Technical medical language has complex

sentences that are long and create a difficulty for translators. For example, the sentence 'For some doctors in affluent countries the first question about prevention of coronary heart disease (CHD) nowadays is whether to write a prescription for one of the statins (simvastatin, pravastatin, fluvastatin, atorvastatin, etc) which inhibit an early step of cholesterol biosynthesis in the body (Truswell:7) is translated by the researchers as:

بالنسبة لبعض الاطباء في الدول الغنية، فإن أول سؤال يدور حول الحد من أمراض القلب المزمنة (سي انش دي) هذه الأيام هو كتابة وصفة طبية تتضمن أحد أنواع الستاتينات مثل: (سيمفاستاتين، برفاستاتين، فلوفاستاتين، اتروفاستاتين... الخ) التي تثبط المرحلة المبكرة من تصنيع الكوليسترول في الجسم'

Some translators solve this problem by splitting long sentences into shorter ones while others keep the same style and do not make any changes as they are convinced that what is important is the information represented and not the style. It could be said that both ways are acceptable. In addition, different word-order of Arabic and English sentences creates problem for translators. However, using strategies such as permutation and addition could solve such problems. For instance, changing the word-order when translating the English sentence 'Mottling of the (anterior permanent) teeth occurs if the fluoride intake is too high in the first eight years of life' into Arabic is necessary to gain an adequate rendition. Thus we translate it as: 'تبقع الأسنان (الأمامي) الدائم) يحدث إذا كانت الكمية المتناولة من الفلورايد عالية جدا خلال السنوات الثماني الأولى من الحياة'. Other problem is translating English Passive sentences into Arabic ones. For instance, 'when the child is weaned the diet has to be very different from that of other children' is translated as: عندما يتم فطم الطفل/ يُفطم الطفل؛ فإن النظام الغذائي الخاص به يجب أن يكون مختلفا عن ذلك الذي يتناوله.

Thus, one strategy of translating passive from English into Arabic is using a nominal sentence. In addition, translating English adjective clauses into Arabic could be problematic and

one strategy used to solve this problem is using equivalent relative pronoun. For example, '*This is accelerated even more in homozygotes that have plasma cholesterols four times normal.*' is translated as: وهذا يرتفع بنسبة أكبر عند الزيغوت أو متماثلي الألائل الذين يكون لديهم الكوليسترول أكثر بأربعة مرات من النسبة الطبيعية.

4. Analysis and Discussion

This section discusses the main lexical and syntactic problems faced by the researchers while translating thirty pages of *ABC of Nutrition*. They give their translation of problematic words or sentences and justifies why they opt for this rendition adopting certain strategies that are discussed below in this chapter. Other possible translations depending on the register are given as well.

4.1. Lexical Problems

This study discusses only three main lexical problems: terminology, abbreviation, and inconsistency and illustrate them through examples.

As we deal with a written medical text where the author's ultimate purpose is to convey facts and knowledge, the language used by both the author and the translator, should be formal. However, the translator has to be aware of his text's receivers as to whether they are specialists or laymen. For example, the medical term 'salivary amylase' would appropriately be translated for specialists in Medicine as 'الأميلاز اللعابية'. However, the same term would be more appropriately if paraphrased as 'السائل الذي يعمل على تحضير الكربوهيدرات لعملية الهضم'; or footnoted for laymen.

Below are discussions of main problems encountered by translators while translating English medical texts involving medical terms, abbreviations and inconsistency into Arabic. Main

strategies used to solve translational problems related to each of them are discussed as well.

4.1.1. *Medical Terms*

A major lexical problem in translating medical texts is translating their terms. The difficulty of translating medical terms could be due to two reasons: the complexity of some medical terms and the non-existence of ready equivalents for those terms in the TL.

The researchers found many medical terms while translating ***ABC of Nutrition***, which have no equivalents in Arabic. To enable the translator to find an equivalent for such terms, Chejne (1969: 151) suggests four strategies "Arabicization (ta'riib), *?iftiqaag* the coining of Arabic equivalents on the basis of Arabic roots, *nahf*, making single words out of compounds, and *majaaz*, creating words according to meaning in a metaphorical sense."

4.1.2. *Loan forms*

In this technique, the translator transfers the phonemic shape and the meaning of an item into the TL without any morphemic substitution. Al-Qasimi (1985: 130) defines loan form as "transferring the foreign word together with its meaning as it is without making any change or with some modification to make its pronunciation consistent with the morphological and phonological systems of Arabic language ...". Loan forms are used when the pronunciation and the meaning of an item are transferred into the TL using its alphabets. These forms are borrowed by using transliteration. Catford (1965:66) explains the process of *transliteration* saying: "In transliteration SL graphological units are replaced by TL graphological units". Thus, by transliteration, we just transfer the sounds existed in English

and put them in Arabic alphabets. This strategy has been adopted in the present study in translating many English medical terms into Arabic. For example, 'statins' is translated as 'الستاتينات'. Other examples are 'plasma' which is translated as 'بلازما'; 'cholesterol' as 'كوليسترول'; 'oestrogene' as 'الاستروجين'; 'enzyme' as 'إنزيم'; 'cortisol' as 'كورتيزول'; 'colon' as 'القولون'; and 'oxygen' as 'أوكسجين'. These translations could be provided for specialists in medicine but not to laymen

4.1.3 *Loan translation (calque)*

According to Bynon (1977: 232), this technique is employed in two different ways. The first way is direct translation for the English compounds while the second is using semantically different Arabic equivalent compounds from those existed in English.

4.1.4 *Semantic Extension*

It is a process of attaching a new meaning to an existing word by modifying its semantic meaning. For example, 'car' is translated as "سيارة" while in the past, the Arabic lexical item "سيارة" refers to "a group of people walking in a line or a caravan".

4.1.5 *Paraphrasing*

This strategy is necessary to be adopted in translating medical texts, particularly if the text receivers are laymen, as in the following examples:

'statins' as 'أدوية تثبط من تركيز الكوليسترول الضار'; 'plasma' as 'سائل'; 'مادة دهنية شمعية في أنسجة الخلايا'; 'cholesterol' as 'شفاف في الدم'; 'estrogens' as 'هرمونات أنثوية يفرزها المبيض كهرمون الجنس الأولي'; 'enzyme' as 'معدد بروتيني معدني يسرع التفاعلات الكيميائية الحيوية'; 'cortizol' as 'هرمون منشط ينتج في قشرة الغدة الكظرية'; 'colon' as 'الجزء الأخير من الأمعاء الغليظة'.

4.1.6 *Compounding*

According to Al-Najjar (1984), this technique is used when a group of words of the TL are employed to stand for a concept represented by a single morpheme in the SL as in the following examples:

Antibody: الأجسام المضادة; Anemia: فقر الدم; Cirrhosis: تليف الكبد;
Dyspepsia: سوء الهضم; Cystol: العصارة الخلوية and; Vascular:
الأوعية الدموية

4.1.7 *Loan blends*

Al-Najjar (1984:195) defines it as blending parts of words from both the SL and the TL morphemic structure to form a new word in the TL. For example, *pancreatic islets* are translated into Arabic as "جزيرات البنكرياس", *folic acid* as "حمض الفوليك" and *salivary amylase* as "الأميلاز اللعابية".

4.1.8 *Derivation*

According to this method, new lexical items are derived from existing roots in the TL to find equivalents for lexical items in the SL. For example, the word "drug" is translated as "العقاقير" and "عقار": "drug" is a derived form from "عقر": "injure".

4.1.9 *Invention*

The creation of new terminologies that follows the phonology and the morphology of the TL and these terminologies are not a semantic extension of existing items nor are they derivations from existing items (Saraiheh, 1990:119). The researchers use this strategy when there is no ready equivalent for English medical terms. This strategy enriches the lexicon of the TL (Arabic). However, new terms might not be used as they are not acceptable by users of the language i.e. Arabs. Thus, newly coined terms must be defined to the public to test their acceptability as many of them are not used since they are either difficult to pronounce or unknown to the public. For example,

many Arabic medical terminologies translated from English are exotic and unused, such as *pancreas* which is translated as 'المعثكلة' instead of 'البنكرياس' and *Hmocalobin* as 'اليحمور' instead of 'الهيموجلوبين'. (Samrah: 1996). This study prefers using 'البنكرياس' and 'الهيموجلوبين' instead of 'المعثكلة' and 'اليحمور' as loanwords are more acceptable by the audience.

4.1.10 Abbreviations

Baker (1992: 21) mentions that one problem of non-equivalence is that the concept in the SL has no ready equivalent in the TL although it is known and easy to be understood. This problem was encountered in the present study in translating English medical abbreviations used in *ABC of Nutrition*. For example, (CHD) is an abbreviated form of 'coronary heart disease' and this abbreviation has no abbreviated equivalent in Arabic. In the present study, the researchers find that *transliteration* is a strategy in that one translates (CHD) as 'سي اتش دي'. However, the same abbreviation could be translated by rendering the word for which the abbreviation stands into Arabic as 'أمراض القلب' and others combine both ways as 'أمراض القلب التاجية (سي سي اتش دي)'. This strategy of translation is preferred if the receiver is a layman as it explains the meaning of the abbreviation. However, if the receiver is a specialist, one could use transliteration of the abbreviated form.

Another example is (LDL) which refers to 'low density lipoprotein'. (LDL) is transliterated as 'ال دي ال' and translated as 'البروتين منخفض الكثافة'. Below are some abbreviated forms, which may encounter medical translators, together with their translations and transliterations which are provided by the researchers through consulting different medical references:

- (IDD): iodine deficiency disorder is transliterated as 'أي' or translated as 'الاضطرابات الناجمة عن نقص اليود'.

- (MUAC): mid-upper arm circumference is transliterated as 'محيط منتصف أعلى الذراع' or translated as 'م يو ايه سي'.
- (PEM): protein-energy malnutrition is transliterated as 'سوء التغذية الناتج عن نقص البروتين' or translated as 'بي أي ام'.
- (HMOs): human milk oligosaccharides is transliterated as 'السكريات البسيطة الموجودة في حليب الأم' or translated as 'اتش ام او'.
- (DHA): docosahexaenoic acid is transliterated as 'دي اتش' or translated as 'حمض دهني غير مشبع'.
- (NVP): nausea and vomiting of pregnancy is transliterated as 'الغثيان والقيء خلال فترة الحمل' or translated as 'ان في بي'.
- (NTDs): neural tube defects is transliterated as 'ان تي دي' or translated as 'تشوهات الأنبوب العصبي'.
- (NIDD): non-insulin dependent diabetes is transliterated as 'ان أي دي دي' or translated as 'مرض السكري غير المعتمد على الأنسولين'. And
- (IDD): insulin dependent diabetes is transliterated as 'أي دي دي' or translated as 'مرض السكري المعتمد على الأنسولين'.

4.1.11 Inconsistency

Translating medical synonyms require special attention and awareness on behalf of the translator. They are due to the rapid and constant progress of science and technology which needs forming new terms to express certain concepts. The same word in a medical subject has several designations. For example, in the present study, it was found that *cirrhosis* is translated as "تليّف الكبد" or "تشمّع الكبد". Diverse renditions have to be distinguished from each other in order to reach precision and clarity and to avoid ambiguity and misunderstanding especially in medical texts. In addition, synonymy results from using different procedures of translation. For example, *anemia* is translated as فقر الدّم or transliterated as أنيميا and *pathology* is translated as either علم "علم الأنسجة" or علم الامراض and this depends on the context.

However, pathology could be transliterated as "الباثولوجيا". Moreover, different Arabic accents helps in producing synonymy, such as the medical term *catheterization* is translated according to different accents as 'قسطرة' and 'قنطرة' (Rababah: 1995, 126). Furthermore, translation of abbreviation could be a source of synonymy as the translator either transliterate the abbreviation itself or translate the word for which the abbreviation stands, such as *CHD* that could be translated as "سي اتش دي" or "أمراض القلب التاجية". Finally, lack of standardization plays a significant role in producing synonymy in Arabic. Al-Qasimi (1982:10) defines standardization as "assigning only one term for each scientific concept in order to avoid synonymy, polysemy and other factors that lead to ambiguity and confusion in technical and scientific language." For instance, *atheroma* has different renditions as "العصيدة الشريانية" or "ورم عصيدي" or "عصيدة"; *hypertension* is translated in many dictionaries as "ارتفاع ضغط الدم" or "فرط ضغط الدم", and *hyperlipidaemia*s translated as "فرط شحميات الدم" or "ارتفاع الدهون في الدم".

4.2 Syntactic Problems

Some of the main syntactic problems faced by Arab translators while translating English medical texts into Arabic are discussed below with illustrative examples. Due to its limited space, this study confines itself to two main problems. The first is related to the fact that Arabic and English use different syntactic structures to express the same idea. The second related to the use of long sentences. Strategies used to overcome these problems are discussed, as well, below.

4.2.1 Word-order

As Arabic and English have different syntactic structures, the researchers encountered a difficulty while translating

sentences from English (SL) into Arabic (TL). It is found that the most prominent difference is the order of sentences structures. The basic word-order of Arabic is Verb-Subject-Object while the basic word-order of English is Subject-Verb-Object. Arabic and English have also different word-order regarding noun phrases. For example, the adjective (i.e. modifier) often precedes the head noun in English while the adjective almost always follows the head noun in Arabic. It is axiomatic to say, therefore, that changing the word-order of the constituents when translating from English into Arabic or vice versa is necessary to obtain well-formed translated sentences. In this spirit, Al-Najjar (2008:263) says:

Because a considerable number of these syntactic and lexical rules are not identical in English and Arabic there is a great deal of housekeeping that should be made by a translator in order for him to come up with well-formed receptor-language sentences... The discrepancies between English and Arabic syntactic and lexical rules can be handled in translation by applying a set of cross-linguistic transformational processes which comprise **permutation, insertion, deletion, and substitution.**

This indicates that there are four strategies that could be used to handle the different syntactic structures of English and Arabic. These strategies are *permutation, insertion, deletion, and substitution.* The researchers discuss, below, the issues of *permutation* and *insertion*, as they are badly helpful in translating medical texts.

4.2.2 *Permutation*

This strategy proved to be useful in the present study. *Permutation* means changing the order of the constituents of the SL texts when transferring them into TL. The following are examples on permutation used by the researchers while translating the English text *ABC of Nutrition* into Arabic:

1) '*Cholesterolis, only found in animal foods*', is translated into Arabic as 'يوجد الكوليسترول في الأغذية النباتية فقط'.

If one considers this translation, he would find it normal as the translator follows the basic word-order of the verbal sentence in Arabic (TL). However, if one keeps the same word-order (i.e. subject before verb) of English (SL), one would find it odd and unnatural as: 'الكوليسترول يوجد فقط في الأغذية النباتية'.

2) '*Mortality rates have, however, recently fallen in Poland and the Czech Republic*':

على الرغم من ذلك ، فقد انخفضت معدلات الوفيات مؤخرا في بولندا
وجمهورية التشيك
معدلات الوفيات قد انخفضت مؤخرا ، على الرغم من ذلك ، في بولندا
وجمهورية التشيك

The first rendition is normal as the verb (انخفضت) precedes the subject (معدلات الوفيات) while the second looks unnatural.

3) '*Dental caries affects people predominantly in the first 25 years of life*': 'يؤثر تسوس الأسنان في الغالب على الخمس والعشرين سنة الأولى' :
'من حياة الناس'

تسوس الأسنان يؤثر في الغالب على الخمس والعشرين سنة الأولى من حياة
'الناس'.

The second sentence is more natural than the first one as the verb (يؤثر) precedes the subject (تسوس الأسنان).

4) '*Most sugars serve as substrate*':

تقوم معظم السكريات بدور الركيزة
'معظم السكريات تقوم بدور الركيزة'

This first version looks natural as the Arabic verbal sentence starts with the verb followed by the subject.

5) 'Mottling of the (anterior permanent) teeth occurs if the fluoride intake is too high in the first eight years of life':

يحدث تبقع الأسنان (الأمامي الدائم) إذا كانت الكمية المتناولة من الفلورايد عالية جدا خلال السنوات الثماني الأولى من الحياة

The sentence is normal as it places the subject 'تبقع' after the verb 'يحدث' and places the modifier 'الأمامي الدائم' after the noun 'الأسنان'.

6) 'The prevalence of non-insulin dependent diabetes (Type 2) increases with age; overall it is about six times more common than Type 1':

"يزداد انتشار السكري غير المعتمد على الأنسولين (النوع الثاني) مع تقدم العمر؛ وهو عموما ينتشر بمعدل ستة مرات أكثر من النوع الأول"

The sentence is acceptable in Arabic as the modifier 'غير المعتمد على الأنسولين' follows the noun 'السكري' and the subject (انتشار) follows the verb (يزداد).

In brief, Arabic translators must be aware of different constructions of Arabic and English and, thus, use different methods that results in acceptable Arabic versions.

4.2.3 Addition

It means adding one or more lexical items when it is necessary to better convey the message in the TL. To illustrate the above assumption, consider the following examples:

1) 'Coronary heart disease is a multifactorial disease': 'تحدث أمراض القلب التاجية بسبب عوامل متعددة'

The same sentence can be translated into Arabic in a different way as in. 'إنّ أمراض القلب التاجية هي أمراض متعددة العوامل' and both are acceptable

Here, the translator adds 'إِنَّ' to signify syntactic emphasis. The researchers convert the verbal sentence into a nominal one by adding the (إِنَّ) and (هي).

2) 'Thrombosis superimposed on an atherosclerotic plaque, which takes hours, usually precipitates a clinical event'.
'إِنَّ التجلط المتراكم على لوحة الشريان المتصلب والذي يأخذ ساعات عادة ما يعجل الحدث سريري'

Here, (إِنَّ) is added to signify syntactic emphasis.

3) 'Associated dietary factors are high intakes of oxalate or vitamin C and low water intake.'

'إِنَّ العوامل الغذائية ذات العلاقة هي تناول الأوكسالات وفيتامين سي بكميات كبيرة وتناول الماء بكميات قليلة'

Here, it is parallel and more natural to repeat the verb 'تناول' in the Arabic sentence.

4) 'Differences in diets are thought to account for more variation in the incidence of all cancers than any other factor (with smoking in second order)'.

" يُعتَقَدُ بأن الاختلافات بين الأنظمة الغذائية المتبعة هي السبب وراء التباين في الإصابة بمختلف أنواع السرطان أكثر من أي عامل آخر (إضافة إلى التدخين بالدرجة الثانية)"

One could notice some additions to the Arabic sentence to convert it from verbal passive sentence to nominal active one as Arabic favors the active more than the passive.

Or one can translate it as using passive verbs as:

"يُعتَقَدُ بأن الاختلافات بين الأنظمة الغذائية المتبعة هي السبب وراء التباين في الإصابة بمختلف أنواع السرطان أكثر من أي عامل آخر (إضافة إلى التدخين بالدرجة الثانية)"

4.2.4 Long Sentences

Medical language usually includes complex, long sentences and this could be problematic for translators. Therefore, the researchers in the present study opt for splitting the long sentence into two whenever convenient. However, they could maintain the same complicated style if the receiver is a specialist. To illustrate this argument further, consider the following examples:

1) 'Dietary factors which tend to increase urinary calcium or have been associated with stones are high intakes of protein, sodium, refined carbohydrate, vitamin D, calcium (spread over the day), alcohol, curry, spicy foods, and Worcester sauce, and low intakes of cereal fiber and water'

"إنّ العوامل الغذائية التي تزيد من كالسيوم البول أو تلك المرتبطة بالحصى هي عوامل غنيّة بالبروتين والصوديوم والكربوهيدرات المكثّرة وفيتامين د والكالسيوم (الموزع خلال النهار) والكحول والكاري والأطعمة الغنيّة بالتوابل الحارّة وصلصة وورسستر والاستهلاك القليل لألياف الحبوب والماء."

This sentence is long as it lists a series of dietary factors. It is preferable to split it into two.

2) 'For some doctors in affluent countries the first question about prevention of coronary heart disease (CHD) nowadays is whether to write a prescription for one of the statins (simvastatin, pravastatin, fluvastatin, atorvastatin, etc.) which inhibit an early step of cholesterol biosynthesis in the body (see p 7).'

"بالنسبة لبعض الأطباء في الدول الغنية، فإن أول سؤال يدور حول وقف أمراض القلب التاجية "سي اتش دي" هذه الأيام هي كتابة وصفة طبية تتضمن أحد أنواع الستاتينات مثل:سيمفاساتين، برفاساتين، فلوفاستاتين، اتروفاساتين...الخ) التي تمنع المرحلة المبكرة من المركبات الدهنية في الجسم (انظر الصفحة7)."

The above translation uses the relative pronoun 'التي' as it is used in the origin without making any change. However, it is recommended to split the English sentence into two in Arabic to simplify its reading and comprehension as in the following:

"بالنسبة لبعض الأطباء في الدول الغنية، فإن أول سؤال يدور حول وقف أمراض القلب التاجية "سي اتش دي" هذه الأيام هي كتابة وصفة طبية تتضمن أحد أنواع الستاتينات مثل: سيمفاستاتين، برفاستاتين، فلوفاستاتين، اتروفاستاتين... الخ). هذه الأدوية تمنع المرحلة المبكرة من المركبات الدهنية في الجسم (انظر الصفحة 7).

It is suggested that the demonstrative pronoun **هذه** to be added to start a new sentence as in the above translation.

3) "Tables are available to show whether the 5-10 year risk justifies the cost of long term statin medication, **but** the relation of diet and CHD is still of primary importance for the majority of people."

"وضعت هذه الجداول لمعرفة فيما إذا كانت مخاطر السنوات (5-10) تبرر تكاليف العلاج طويلة الأمد باستخدام أحد أدوية الستاتينات، **ولكن** العلاقة بين البرنامج الغذائي المتبع و"سي اتش دي" ذات أهمية رئيسية لأغلبية الناس."

(is used to join two sentences. However, this sentence could be split into two separate ones by using, for instance, (على الرغم) and (فإن) as in the sentence below:

"وضعت هذه الجداول لمعرفة فيما إذا كانت مخاطر السنوات (5-10) تبرر تكاليف العلاج طويلة الأمد باستخدام أحد أدوية الستاتينات. **على الرغم من ذلك، فإن** العلاقة بين البرنامج الغذائي المتبع و"سي اتش دي" ذات أهمية رئيسية لأغلبية الناس."

4) "It is common in older people not only in urban and industrialised areas but also in a quiet Hebridean island, in tropical Africa, where Albert Schweizer used to work, and in an isolated Solomon Islands' tribe minimally influenced by Western ways, which cooks in sea water."

"وهو مرض شائع عند كبار السن ليس فقط في المناطق الحضرية والصناعية، ولكن أيضا في الجزر الهادئة في إفريقيا الاستوائية حيث اعتاد البرت شفايتزر العمل، وفي قبيلة جزر سليمان المعزولة المتأثرة بأدنى حد بالأنماط الغربية والتي تستخدم مياه البحر في الطهو."

This sentence is long as it includes one main clause, two subordinate clauses, and names of a series of places. It would be more adequate if the above complex Arabic sentence divided into shorter simple sentences.

5) 'One aspect is that if sodium tends to accumulate in cells it interferes with calcium transport, and elevated free calcium in the cytosol of arteriolar smooth muscle cells increases their tone and consequently the arterial blood pressure.'

"أحد الجوانب هو أنه إذا كان الصوديوم يميل للتراكم في الخلايا فإنه يتداخل مع نقل الكالسيوم ويزيد من الكالسيوم الحر في العصارة الخلوية لخلايا العضلة الملساء الشريانية وبذلك فهو يزيد من انقباضها وبالتالي يؤدي الى رفع ضغط الدم الشرياني."

This sentence is long as it includes a subordinate clause that indicates a consequence of events.

6) 'For the general adult population, mainly as a measure to help prevent hypertension, Australia (from 1982), the USA (from 1989), WHO (1990) and the UK Department of Health (1994) all recommend a target intake of 100 mmol sodium per day equivalent to 6.0 g NaCl or 2.3 g Na or less.'

"بالنسبة لعموم الشعب البالغين، وبشكل أساسي كمساعدة لمنع ارتفاع ضغط الدم، فإن كلاً من استراليا (من 1982)، والولايات المتحدة (من 1989)، ومنظمة الصحة العالمية (1990)، ووزارة الصحة في بريطانيا (1994) توصي بتناول 100 مليمول من الصوديوم لكل يوم أي ما يساوي 6.0 غ من كلوريد الصوديوم أو 2.3 غ من الصوديوم أو أقل."

This sentence is long as it includes two phrases and four subjects for the same verb. Its comprehension for the non-specialist is difficult. Hence, it is recommended to segment it into smaller ones.

7) 'But the same (London) clinic found little or no effect in similar hypertensive patients who had managed to reduce their sodium intake (and urinary sodium) to around 70 mmol a day—potassium acts as a sodium antagonist and has little effect when sodium intake has been halved.'

"ولكن وجدت نفس العيادة (في لندن) أن التأثير قليل أو معدوم عند مرضى مشابهين يعانون من ارتفاع ضغط الدم وتمكنوا من تقليل كمية الصوديوم المتناولة (و صوديوم البول) لتصل إلى حوالي 70 مليمول في اليوم- يعمل البوتاسيوم كعامل مضاد للصوديوم ويقل تأثيره عند تقليل كمية الصوديوم المتناولة الى النصف."

This sentence is long as it includes a relative clause and a parenthetical sentence. However, it is suggested to reduce this sentence as in the following:

"ولكن وجدت نفس العيادة (في لندن) أن التأثير قليل او معدوم عند مرضى مشابهين يعانون من ارتفاع ضغط الدم. وقد تمكن هؤلاء من تقليل كمية الصوديوم المتناولة (و صوديوم البول) لتصل إلى حوالي 70 مليمول في اليوم- يعمل البوتاسيوم كعامل مضاد للصوديوم ويقل تأثيره عند تقليل كمية الصوديوم المتناولة الى النصف."

4.2.5 Voice: active/ passive

English prefers using passive voice in the scientific discourse over an active voice. Arabic, however, prefers using active voice. That is why different strategies are opted for in translating English passive sentences into Arabic:

- Translating the agentless passive voice into Arabic by using (تمّ،) (سيتمّ plus verbal noun of the transitive verb) or using (the passive form of the verb) as in the agentless passive voice in the following sentence:

1) 'when the child **is weaned** the diet has to be very different from that of other children' is translated as:

"عندما يتم فطم الطفل/ يُفطم الطفل؛ فإن النظام الغذائي الخاص به يجب أن يكون مختلفا عن ذلك الذي يتناوله "

-Translating the passive into Arabic by using a nominal sentence as in the following sentence is an example:

2) 'They interfere competitively with cholesterol absorption and **are** poorly **absorbed** themselves.'

وهي تتصادم بشكل تنافسي مع امتصاص الكوليسترول ولكن هي نفسها ضعيفة الامتصاص.

4.2.6 Adjective clauses

-Translating adjective clause into Arabic using equivalent relative pronoun as in the following example:

1) 'This is accelerated even more in homozygotes **who** have plasma cholesterol four times normal.'

" وهذا يرتفع بنسبة أكبر عند الزيجوت أو متماثلي الألائل الذين يكون لديهم الكوليستيرول أكثر بأربعة مرات من النسبة الطبيعية"

- Translating adjective clause into a noun phrase as in the following example:

2) 'HDL-cholesterols tend to be lower in overweight people, in those with diabetes, and in those **who** smoke.'

" تكون نسبة كوليسترول "اتش دي ال" منخفضة عند الناس ذي الوزن الزائد وهؤلاء المصابين بالسكري والمدخنين "

5. Summary, conclusions and recommendations

Summary

Some lexical and syntactic problems in medical texts could be problematic for translators when translating from English into Arabic. However, there are different strategies that could be used by translators of medical texts to solve some lexical and syntactic problems. The paper discusses three lexical problems that usually encounter the Arab translator translating from English into Arabic: medical terms, Inconsistency, and abbreviations. It uses borrowing, with its different techniques, and Arabicization as strategies to translate medical terms that have no equivalents in Arabic. Medical abbreviations that have no equivalent abbreviated forms in Arabic could be translated by using either

transliteration or paraphrasing. This paper deals with four syntactic problems which are: long sentences, word-order of Arabic and English sentences, voice: active/ passive, and adjective clauses. *Permutation, insertion, deletion, and substitution* are also used to handle different constituents of Arabic and English structures. The study finds that splitting long sentences into shorter ones can be used to simplify them and to facilitate their reading and understanding for non-specialists.

Conclusion:

The study concludes that:

1. Arabic has no ready equivalents of some medical terms existed in English such as most medical terminologies and medical abbreviations.
2. Borrowing with its different techniques is a solution for English medical terms and abbreviations that have no equivalents in Arabic.
3. Transliteration is an easy and short method for translating English medical terms which have no equivalent in Arabic. However, this strategy could be at the expense of naturalness and idiomaticity in the TL.
4. Many Arabicized terms are odd and unused as their acceptance is not tested by language receivers.
5. Arabicization of English medical terms is a thorny issue for the following reasons:
 1. the rapid revolutions in medicine and technology which have brought many new terms that have no Arabic equivalents;
 2. scattered efforts of linguists and Arabicization organizations in the Arab world;
 3. lack of standardizations of the Arabic equivalent terms existed in different medical dictionaries;

4. many of the Arabicized medical terms have not been tested by the native speakers of the SL (i.e. Arabs);
5. synonymous medical terms are problematic to be rendered as the translator might be confused which appropriate equivalent to choose;
6. lack of standardization constitutes major difficulty for Arab translators of medical texts;
7. the translator's intuition plays an important role in choosing better equivalent as many medical dictionaries include odd and unacceptable terms;
8. to end up with an adequate medical text, translators of medical texts must be specialists in Medicine or at least knowledgeable about Medicine; and
9. transferring information and facts in scientific texts, namely medicine, is more important than transferring style as the main purpose of medical texts is to convey facts and information.

Recommendations

On the basis of the findings of this study, the following recommendations are provided:

1. Courses on translating medical terminologies should be taught to medical translators.
2. Other studies have to be done on other lexical and syntactic problems faced in medical texts other than those mentioned in this paper.
3. Standardization is necessary to unify the diversity of designations and facilitates communication.
4. There should be International cooperation between Arabicization organizations and terminology banks among Arab countries and abroad.
5. Efforts in Arabicizing medical terms and methods for coining them have to be unified.
6. Documenting Arabicized medical terms, to avoid duplicate efforts, should be done.

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