Examining the Usefulness of Medical Bilingual Dictionaries for Translation Purposes

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Abstract

This paper aims at examining the effectiveness of four medical bilingual English-Arabic dictionaries for translational purposes. This is done by investigating the provided information used in the presentation of a number of medical words in the examined dictionaries. The results reveal an inconsistency in the presentation of the selected words in the dictionaries; which might be correlated to the lack of provision policies given by the compilers of the dictionaries. Moreover, an inadequacy in the provision of semantic, pragmatic, and encyclopedic information was noticed which would be inadequate for translational purposes. However, it was found that the Unified Medical dictionary covered more types of information like the provision of encyclopedic illustrations and pictorial illustration.

1. Introduction

The disciplines of translation and lexicography are linked to each other in 'give and take' operations (Hartmann, 2004). In this regard, translation is considered as the supplier of translation equivalents to bilingual dictionaries and a customer of information provided by lexicographers to translators, (Hartmann, 2004). In his article 'Lexicography and Translation',

Hartmann (2004) found out that relatively little attention was paid to lexicographical topics within translation. He further called for more studies to be carried out in this field:

Wherever the impetus may come from (lexicography, translation, or a third field of specialization such as text linguistics, computing or corpus linguistics), and whatever the issue may be (ranging from the old arguments on meaning discrimination in dictionaries to the new possibilities offered by text corpora), no opportunity for interdisciplinary collaboration should be left untried.

The time has come to revisit the whole development of the notion of "parallel texts" and their use(s) in lexicography and translation. (Hartmann, 2004:13)

Hartmann (2004) discussed the lack of systematic interlingual investigation on the correlations between LSP (language for specific purposes) teaching, LSP text linguistics, LSP translation, LSP lexicography, and LSP terminology. His findings and recommendations highlight the lack of a dedicated volume on the investigated topic, which consequently adds significant value to the current study.

Later, a similar review was carried out by Rigula and Calvi (2014) to conclude that lexicographers paid scant attention to the field of translation, at least as a source of dictionary building. Rigula and Calvi (2014) also asserted that most of the lexicographical work is centered toward assessing and evaluating dictionaries according to their usage and their effectiveness to the users. However, lexicographers were found to do more work to the 'sister' disciplines of lexicography and translation than translators do; this, in turn, may illustrate the volume of work on the use of dictionaries. Besides, it might be argued that the starting point to develop and improve the state of lexicography in the field is to explore how useful are the dictionaries in fulfilling their intended functions which is the concern of this paper.

Varantola (2002) argued that dictionaries are 'loaded weapons' in the hand of the users if they are treated as reference resources where languages are coded and that the right-hand side of the bilingual conversation is the mirror image of the left-hand side, but in different language. In this vein, Varantola (2002) wondered whether dictionary-based mistranslations are the fault of dictionaries or their users. To find out an answer to Varantola's question, research needs to be conducted to clearly explore and clarify the scene. Consequently, this study intends to examine the presentation of medical words in medical bilingual dictionaries.

Dictionaries came in various forms and naturally serve a multitude of potential users. And among the range of reference works, the dictionary is certainly 'the most common type'. (Dictionary of Lexicography, 1998: 41, cited in Hartmann, 2001: 13)

Dictionary research, defined by Hartmann (2001: 27) as 'the academic study of such topics as the nature, history, criticism, typology, and the use of dictionaries and other reference works' is the broad term under which this research project can be viewed. More specifically, it is dictionary criticism that is the major concern of this thesis.

In fact, Hartmann allocates dictionary criticism an independent section in his review of 'historical and critical perspectives' (2001: 47). He reminds us of the fact that "Ever since

dictionaries have been produced, they have also been the object of critique." (ibid). However, it is a sad observation that "generally agreed criteria and standards for the assessment of quality and performance are still rare, if they can be said to exist at all." This reality does make the job of any researcher certainly difficult.

In the absence of 'systematic and internationally agreed criteria for assessing dictionaries and other reference works', Hartmann (2001: 48), we are advised to 'place lexicographic criticism on a more objective footing. In particular, we are urged to consider the issue of assessing dictionaries by asking more specific questions such as:

1.   What are the purposes of a particular dictionary?

2.   What are its prosperities?

3.   How is its content presented?

4.   How are the information categories structured?

(ibid: 56)

As far as language for specific purposes (LSP) is concerned, the situation seems to be even worse. According to Hartmann (2001: 77):

"Little research has been done on dictionaries devoted to 'languages for special purposes', and even less on those that might cater to LSP learners."

Consequently, this study is needed as a starting point before building medical Arabic monolingual or bilingual English/ Arabic corpora. An example of such an Arabic medical corpus is discussed in Samy, et al. (2012) article, where this corpus is based on the terms provided by the Unified Medical Dictionary, as a source of Arabic medical data. However, this dictionary needs to be evaluated before using it as a reference.

Reviewing the related studies like Haddad (1997), Argeg (2015), Al Darweesh (2011), and Suwaan (2017) shows that there is paucity in literature on this topic especially in Arabic where most of the conducted studies concentrated on the discussion of the medical translational aspects like medical translational problems, polices, difficulties, etc.

2. Literature Review

Several studies have examined the purpose of dictionary use in professional education. One of these is the study conducted by Mansoor-ul-Haq and Ahmad (2010) who investigated the dictionary using habits among medical students using a questionnaire. The findings of the study revealed that the main motivation for consulting dictionaries among medical students is to search for encyclopedic information. Medical students were rarely found to refer to dictionaries for language needs. In this study, the used questionnaire does only survey participants' opinion about their reasons for consulting dictionaries. Thus, it can be argued that it does not empirically investigate the way users refer to dictionaries, i.e. it does not follow the function theory of lexicography

The presentation of definitions for a set of medical words was also investigated. Norri (2017) examined the definition's formulation of six 'sensitive' medical words in several medical and general dictionaries of English; eleven medical dictionaries and twenty-one non-specialist dictionaries of English. It is found that the presentation, definition's formulation, of those words varied from volume to another. According to Norri (2017), such variations can result from the sensitivity of the topic and the difficulty of deciding whether the information, to be included in the definition, is linguistic one or encyclopedic. At the end of the paper, recommendations for further investigation of the presentation of medical terms were affirmed. Therefore, Norri (2017) highlighted the necessity of more cooperation between lexicographers and medical experts.

Al-Qaisiya (2010) investigated the treatment of collocational patterns for (25) common medical words in seven different dictionaries: three general monolingual English dictionaries, two medical monolingual dictionaries, and two medical bilingual dictionaries. The reported results revealed that the three general monolingual dictionaries address the issue of collocations of different forms. Yet, Longman Dictionary of Contemporary English was found to be superior over the other two general dictionaries, Oxford Advanced Learner's Dictionary and Cambridge Advanced Learner's Dictionary, in terms of the provision of collocations of various types. For medical dictionaries, the results showed that York Dictionary of Medicine was better than the rest. Al-Qaisiya (2010) highlighted the need to carry out some improvements to the status quo of medical lexicography.

The effectiveness of bilingual dictionaries in translation has been theoretically discussed. One of these practical studies is the work of Al Mazrouei (2014) who assessed the usefulness of Al-Mawrid English/Arabic dictionary as a translational tool. In his study, Al Mazrouei clarified the reasons beyond selecting Al-Mawrid, a bilingual English/Arabic dictionary. According to him, Al-Mawrid is the 'most' sold and the 'most' used tool in the market. But, one may question Al Mazrouei's 'most' judgment on Al-Mawrid, since it seems that he built it based on Al-Besbasi study which was carried in 1991(Al Mazrouei, 2014); which is 23 years before his study. So, we might question if it is still the same 'most'? Nevertheless, the dictionaries' selection in the present study would be built by surveying the translator's opinion about the commonly used and available bilingual dictionaries.

In his investigation, Al Mazrouei (2014) built a corpus composed of (20000) words that were randomly selected and translated by randomly selected professional translators. Here, it is noteworthy highlighting that the criteria of the word's random sampling were clearly defined. The findings of Al Mazrouei's study reveal areas of weakness in Al-Mawrid as a 'prominent' translational tool. He argued that these drawbacks were also noticed when comparing Al-Mawrid to other 'prominent' dictionaries in other languages like The New Oxford Dictionary of English (1998). But how could Al Mazrouei make such a comparison between bilingual dictionary of English/ Arabic to another monolingual dictionary of English like the aforementioned? However, the comparison made in the study was among the three references; namely: Al-Mawrid, the Arabic-English Oxford Bilingual Dictionary, and E-Translator.

Al Mazrouei (2014) also found that certain entries provide unclear and confusing explanations. Thus, he emphasized the need for having an updated version of Al-Mawrid dictionary.

Mateo (2014) has focused on some lexicographical and translational issues in listing financial neonyms in English/Spanish and Spanish/English bilingual specialized dictionaries of economics. The study started by reviewing the current status of bilingual paper-based dictionaries of economics and stating that they are the favorite reference tool for a great number of specialists using this professional language. Then, Mateo (2014) examined the translation of some English financial neonyms that daily appeared on the internet and in print in a number of bilingual English/Spanish dictionaries. The selection of items and the concentration on the media where they occur seems to be purposely chosen. It seems that Mateo (2014) has stressed the impact of the internet medium on creating new terms for which translation makes confusion and creates a gap between specialists in this field and specialized lexicographers in economics. For Mateo (2014), this took place because the available Spanish translations of the new terms in the internet were neither translated by specialists nor by specialized lexicographers in the field of Economics. Thus, according to him, specialized lexicographers have to keep an eye open to the immediacy of the internet and to benefit from its different media in compiling specialized online or electronic bilingual dictionary in order to confront the problem of the diversity in the translations of the newly appeared words.

Mateo (2014) added that if lexicographers specialized in economic insist on the traditional way of compiling paper-based specialized bilingual dictionaries, the gap would widen and those types of dictionaries would include outdated terms or information. Hence, these dictionaries would no longer be accredited as valuable reference tools. In other words, the idea that Mateo (2014) wanted to convey is that the immediacy of the internet does not have to be confronted with the delay of the print in the matters of coining and dealing with financial neonyms.

The usefulness of Zulu bilingual dictionaries to the translators was also examined. In her article, 'Bilingual dictionaries, the lexicographer and the translator, Rachelle Gauton (2008) concentrated on the problem of the lack of equivalents between languages with reference to Zulu. She discussed how this drawback negatively affects the usefulness of bilingual dictionaries as a translational tool to translators. Consequently, she recommended that lexicographers have to consider this problem while compiling bilingual dictionaries. Gauton (2008) also stressed that dictionary users, especially translators, have to be aware of this issue while consulting bilingual dictionaries.

Concerning the users of dictionaries and their needs to consult them, a growing body of literature has analyzed this topic following several approaches. Varantola (2002) was among these researchers that drew attention to the importance of caring about the users' needs for consulting the dictionaries. Varantola (2002) stated that this is not an easy task to be performed because of the number of variables that the researcher has to consider, and the difficulty to be faced while controlling the experiments. Thus, she argued that most of the studies that discussed the topic of the usability of dictionaries are either built on the

researchers' preferences or their expectations. In her paper Varantola (2002) stressed that dictionaries should not be used as 'stand-alone' products by professional translators; this conclusion was built on an empirical study carried out by the same researcher in another paper of her in (1998).

Varantola (1998) practically surveyed the use of dictionaries by trainee translators adapting Kings' (1986) think aloud protocol through using a diary-like worksheet (Varantola, 1998). The findings of this study showed that dictionaries are only one resource among many other resources to be consulted by translators like encyclopedias, technical glossaries, parallel texts and, concordance corpora. Varantola (1998) reached a conclusion that several equally important consequences have to be developed in this regard. The first one stressed the benefits from all of the previously mentioned resources in compiling a dictionary to improve its status. The second consequence highlighted the significance of improving the users' dictionary skills. Moreover, the last one suggested designing a special reference source that satisfies the translator's specific needs.

Fuertes-Olivera (2013) has also discussed the role of dictionaries in a translation situation within the frame of the *Function Theory of Lexicography.* Fuertes-Olivera (2013) made several comments on the needed lexicographical data for assisting translators of specialized texts. He suggested several recommendations to be followed in order to construct 'high quality' translation dictionaries in light of referring to the *Accounting Dictionaries*; which are a series of interrelated Danish, English, Spanish, Danish-English, English-Danish, Spanish-English and English-Spanish dictionaries. These dictionaries are concerned about assisting a specific user in several defined situations like L1-L2 and L2-L1 translation.

When it comes to the evaluation of users' needs, space has to be allocated for Robert Lew who had several theoretical and practical investigations in this respect. In his book 'Which Dictionary for Whom? Receptive Use of Bilingual, Monolingual and Semi-bilingual Dictionaries by Polish Learners of English', Lew (2004) investigated the receptive aspects of using a dictionary by Polish learners of English and assessed the effectiveness of various dictionary types in presenting receptive lexical support. Later and in (2015), Lew has traced the major contributions on the topic of dictionary design from the users' point of view (Lew. 2015).

Lexicographical and terminological resources were also evaluated as well. In their study, Rodriguez et al. (2012) paid special attention to the methodological aspects followed to empirically evaluate general and specialized resources for translation. Therefore, Rodriguez et al. (2012) highlighted the way they designed an online questionnaire, called Ecolexicon, which aimed to assess terminological knowledge based on the environment by trainee translators in Spain.

Concerning the role of dictionary in a special context like the medical one, Diab (1989) carried out an empirical study aiming at examining the role of dictionaries in English for specific purposes. He showed that the dictionary use among nursing students varied from one context to another, i.e. dictionaries were found to be used more frequently in the clinical training rounds than in lectures or seminars. It is also stated that the frequency of consulting

dictionaries, in such context, is affected by the proficiency level of the students. Hence, Diab (1989) recommended that ESP dictionaries have to be built on real language data drawn from actual samples of language in use. Furthermore, he confirmed the necessity of considering the users' real need for dictionaries before compiling such specialized dictionaries.

Similar calls for specifying the users' need in specialized context prior to compiling specialized monolingual or bilingual dictionaries are found within the various papers presented in the book of 'Specialised Dictionaries for Learners' edited by Pedro A. Fuertes-Olivera (2010). The book covers three main area related to the field of LSP. The most related area to the topic of this review is the first of one that highlights the contribution of the function theory to the development of specialized dictionaries for learners. In this part, it is argued that in LSP contexts the line boundaries between the disciplines of lexicography and terminology are melted or do not exist (Bergenholtz and Tarp, 2010). The functions of specialized learners' dictionaries were also thoroughly discussed by Trap (Trap. 2010).

To summarize, an argument discussed by Hartmann (2001) can be noticed; "If we are seriously interested in advancing our knowledge about dictionaries and in making progress across the field of lexicography, we need to find out what the facts are." (ibid: 4).Thus, it is evident that the current research effort must try to establish 'the facts' about as many aspects of dictionaries as possible.

3. Methods

This section presents a description of the method employed to carry out this study including data collection procedures such as the selection of words and the selection of dictionaries. It also describes the procedures employed in analyzing the data obtained.

3.1 The Selection of Vocabulary Items

The first step before selecting words was the selection of the text in which those items exist. For this, a decision was made to choose a commonly translated type of texts where a need for bilingual dictionaries appears. Yet, not all of the medical texts have the same opportunity to be translated to another language which sounds reasonable to understand why in their book " Medical translation step by step: learning by drafting" Montalt and Vicent (2007) specify four frequently translated genres according to their main roles in society; these are: research, professional practices, education, and trade. However, each of those genres is subdivided into many subcategories.

Hence, for the selection of representative texts, the researcher decided to adopt this classification of the four frequently translated types of genres as a starting point for applying random sampling in texts' selection. Yet, before performing random sampling, the researcher narrowed down the previously given lists of the type of genres by surveying the opinions and attitudes of some medical specialists to select the most significant forms from each type. The results of the survey shortened the list of genres to the following:

- The first genre: Research paper, Clinical trial protocols and Case report.
- The second genre: Informed consents and Medical reports.

- The third genre: Fact sheets for patients**,** Patients information leaflets**,** Coursebook, and Medical encyclopedias.
- The fourth genre: Contracts**,** Product information leaflets, and New drug application.

After applying random sampling, it is an informed context that was selected as the text type. After that, the following step was choosing an informed consent concerning a familiar topic like 'amniocentesis'. Then, three medical words from the informed consent were selected; those are *Amniocentesis, Cramping, and Dow's Syndrome.*

3.2 The Selection of Dictionaries

In an attempt to be more authentic and systematic in the selection of general and medical bilingual dictionaries to be examined in the study, the researcher started by surveying the commonly used bilingual dictionaries in medical translation among Arab translators in general and among Jordanian translators in particular. For this purpose, the translators' recommendations in translation associations such as the Arabic Translation and Intercultural Dialogue Association (ATIDA) are reviewed and scrutinized. The researcher found that in (2013) an inquiry post was directed to medical translation specialists by a participant who asked them to recommend her medical paper-based dictionaries. Most of the reviewed comments highly recommended Hitti's Medical Dictionary (HMD) as one of the "best" used dictionaries in the field till that time.

Another recommended dictionary was The Unified Medical Dictionaries (UMD). One of the professional translators there commented that during his work in medical translation HMD was the best-used dictionary till the UMD appeared. He justified that his recent preference toward UMD resulted from the fact that UMD is continuously revised and developed by World Health Organization (WHO) with the assistance of the Arab Health Ministers' Council, Arab Medical Union and Arab League Educational, Cultural and Scientific Organization (ALECSO) and several Arab academies. The third listed dictionary in response to the post was Merashi's Medical Dictionary (MMD). Thus, the recommended paper-based medical dictionaries in this regard are:

1. Hitti's Medical Dictionary (HMD)

2. The Unified Medical Dictionaries (UMD)

3. Marashi's Medical Dictionary (MMD)

Yet, searching ATIDA homepage under the list of specialized medical dictionaries of various types, a list of specialized medical dictionaries and medical glossaries was found. As this research is concerned with dictionaries, medical glossaries mentioned in this list were eliminated to end up with the following list (ATIDA, 2019):

1. Unified Medical Dictionaries (المعجم الطبي الموحد) (The online version of this dictionary) http://umd.emro.who.int/whodictionary

2. Al Qamous Al Tibbi (القاموس الطبي) (it supposed to be an online dictionary, but the given link did not work) http://www.alrazi.net/portal/index.p...atid=84&page=1

3. Qamous AlAdweieh (قاموس الأدوية) (it supposed to be online dictionary, but the given link did not work) http://www.alrazi.net/portal/index.p...atid=84&page=1

4. Qamous Al eiyadah Alshamelah (قاموس العيادة الشاملة) (Online dictionary) http://www.click4clinic.com/modules.php?name=Dic

5. Hitti's Medical Dictionary (قاموس حتي الطبي) (Paper-based dictionary)

Relating to Jordanian translators' recommendations of medical bilingual dictionaries, three professional translators in Amman were asked to provide their recommendations in this regard. Employing telephone call, the intended information was gathered to find that the highly recommended medical bilingual dictionaries are:

1. Unified Medical Dictionaries (Online and paper-based versions)

2. Hitti's Medical Dictionary (Paper-based dictionary)

3. Marashi's Medical Dictionary (Paper-based dictionary)

4. Qamous Tibbi (قاموس طبي) (Online dictionary) https://www.tbeeb.net/med/

The third exploratory procedure to select the dictionaries of the study was checking the availability and the commonly sold or used bilingual paper-based, medical dictionaries in the bookshop of the University of Jordan, Petra Library, and the University Library. Telephone calls were also made to gather information about the bestseller and the available medical dictionaries on the shelves, of the popular libraries and bookshops.

The available medical dictionaries are:

1. Merashi's Concise Medical Dictionary, 2003. (Bilingual medical dictionary).

2. Hitti's Medical Dictionary, new edition 2008. (Bilingual medical dictionary).

Finally, a decision was to be made on choosing the highly recommended and available dictionaries among the previously listed dictionaries. Yet, as this study investigates whether the formats of the dictionaries affect their effectiveness, dictionaries of different formats have to be selected and examined in this study. Bearing all of the above-mentioned considerations in mind, the selected dictionaries are:

1. Hitti's Medical Dictionary, new edition 2008, (HMD). (Bilingual medical dictionary; Paper-based)

2. Marashi's Concise Medical Dictionary, 2003, **(MCMD).** (Bilingual medical dictionary; Paper-based).

The Unified Medical Dictionaries, (UMD), (Bilingual medical dictionary; Online). http://umd.emro.who.int/whodictionary

3. Qamous Tibbi, (QT). (Bilingual medical dictionary; Online). https://www.tbeeb.net/med/

Following several steps in the selection of the examined dictionaries seems to set this study apart from others in the reviewed literature. Most of the previously performed studies, like Al

Mazrouei (2014) and Haddad (1997), do not clearly state the reasons behind the selection of the examined dictionaries on their investigation except for mentioning that they are the commonly used dictionaries in the area without clarifying how 'common' they are**.**

3.3 Data Analysis

The chosen words were looked up in the selected dictionaries. The gathered information about the availability of the examined words and the provided information were tabulated. For the provided information, the availability and the presentation of the following pieces of information were investigated:

1. Semantic information as equivalents, synonyms, and definitions.

2. Encyclopedic information, extra clarification, and explanation of the terms.

3. Pragmatic information like connotations, stylistic information such as the level of formality, usage labels, collocations, Illustrative examples (according to Rasmussen (2010) who considered the elements that correlate the words or their definitions to a context like illustrations, examples, usage notes or collocations as pragmatic information)

4. Grammatical information as part of speech

5. Etymological information

6. Pictorial illustrations like pictures or drawings

4. Findings and Discussion

The findings of the treatment of the lexical items: *Amniocentesis, Cramping, and Down's syndrome* in the selected dictionaries are illustrated in the following subsections.

4.1 Amniocentesis

Concerning the word 'amniocentesis' Table 1 demonstrates the provided type of information of the word in the investigated dictionaries.

Table 1. The treatment of 'amniocentesis' in the selected dictionaries

	HMD	**MCMD**	**UMD**	**QT**
Semantic information	-2 equivalents -A definition	-2 equivalents -A definition	-One equivalent -A definition	-2 equivalents
Pragmatic information	NG	NG	**-**Usage restrictions: unified	**NG**
Encyclopedic information	**NG**	**NG**	-Found in the definition -Providing medical subfield	NG
Grammatical information	**NG**	**NG**	- Part of speech: Noun Phrase	**NG**
Pictorial illustrations	**NG**	**NG**	**Given**	**NG**

The symbol NG is used in the table to refer to not given

Examining the data in Table (1), it appears that UMD is the only dictionary that provides more illustrations for the word amniocentesis other than the semantic information. UMD gives pragmatic information in a form of restrictions of usage, encyclopedic illustrations supplied in the definition, grammatical information by specifying the part of speech of the Arabic equivalent and pictorial illustration that shows a needle injected into an abdominal wall. It seems that UMD surpasses the other dictionaries in the amount of information given to the users. Yet, the provided information has to be investigated in order to support such a claim.

Comparing the definition provided by UMD with those given by HMD and MCMD reveals how UMD gives extra encyclopedic information concerning how, when and why amniocentesis is performed. What follow is the definition given by HMD, MCMD, and UMD respectively:

HMD: سحب عينة من سائل السَّلى للفحص

(Obtaining a small sample of the amniotic fluid to be used for testing purposes)

MCMD:سحب عينة من سائل السَّلى للفحص

(Obtaining a small sample of the amniotic fluid to be used for testing purposes)

UMD:أخذ عينة من سائل السلى (الصاء) من رحم الحامل لتشخيص الأمراض الجينية قبل الولادة

(Obtaining a small sample of the amniotic fluid (the liquid) from the uterus of a pregnant woman to diagnose genetic diseases before delivery.)

As for the provided equivalents by the dictionaries, none of the examined dictionaries illustrates the policy followed in the provision of the equivalents, nor do they provide any usage notes about the level of formality of the given equivalents. All of the dictionaries, under investigation, merely juxtapose the word in the target language with its equivalents in the source language without any clarification of how the equivalents were chosen, or even how they would be used in SL context. For the dictionaries HMD, MCMD and QT the scene seems worse since no indication about how the equivalents were discriminated was stated. If these dictionaries are supposed to be used for translational purposes, it can be argued that no helpful information was given to the users for decoding and encoding purposes except for the definition presented by UMD. For more clarification the provided equivalents by the dictionaries are listed below.

HMD: بَزلُ السَّلى، سَحبُ الصَّاء

MCMD:بَزلُ السَّلى، سَحبُ الصَّاء

UMD: بَزلُ السَّلى

QT: بَزلُ السَّلى، فحص المياه الجارية

As a native speaker of Arabic who claims to master a good command of the Arabic language, I could say that none of the aforementioned equivalents are understandable. In fact, I went back to check the meaning of every word in the given equivalents in Arabic monolingual dictionaries to understand that the word (بزل) means to make a hole or an opening, the lexical item (السَّلى) means a thin membrane that surrounds the fetus, and that (الصَّاء) stands for the amniotic fluid. Thus, one could say that the provided equivalents fit for the encoding purposes but not for the decoding ones since they are chosen from classical Arabic which is both a blessing and a curse. The Arabic equivalents (بَزلُ السَّلى) and (سَحبُ الصَّاء) could be regarded as congruence, full equivalents, according to Gouws' (2002) classifications of equivalents that they have a one to one correspondence to the word 'amniocentesis' on the levels of semantic, pragmatic and the lexical one. They all share the same meaning and the same level of formality and technicality. Nonetheless, the Arabic equivalents are not common, if they are used, in colloquial Arabic. Therefore, it would be better for lexicographers of bilingual medical dictionaries to complement these equivalents with simple and less technical definitions or illustrations to make their dictionaries suitable for decoding purposes as well (Rasmussen, 2010). Doing so would make these dictionaries meet the translational purposes of presenting encoding and decoding information and being user-friendly, cf. Bergenholtz and Trap (2010).

It seems that UMD is following this strategy in the presentation of the lexical item 'amniocentesis' that it supports and clarify the given equivalent with a definition and a pictorial illustration which helps in perceiving its meaning. Although HMD and MCMD provided a definition, it sounds that their definitions fail their intended perceiving purpose because the definitions contain a technical vague word like (السَّلى) without giving any clue for what does it stand for.

Regarding the pragmatic information, only UMD includes usage information about the word and list it under the label (ضوابط الاستعمال) which is usage restrictions, as far as I understand it. UMD sates that the usage restriction of the 'amniocentesis' is 'unified' (موَحَّد); however, one could question this restriction note and its applicability since no guide instructions was indicated by UMD to clarify the meaning of this restriction. In sum, the usage restriction was given but no clarification about how to benefit from it was provided. This would make this note meaningless and waste of space.

4.2 Cramping

Regarding the word 'cramping' it has to be highlighted that it was only found in QT under the search item 'cramping' while in the paper-based dictionaries, HMD and MCMD, and the other online dictionary, UMD, it was listed under its base form, which is 'cramp'. This may give a credit to QT over the other dictionaries for its directness and hence saving time and effort, i.e. being more user-friendly. As for the treatment of the lexical item 'cramping' or 'cramp' in the four dictionaries, Table (2) displays the provided type of information of the word in the investigated dictionaries.

Table 2. The treatment of 'cramping' in the selected dictionaries

	HMD	MCMD	UMD	QT
Semantic information	-2 equivalents	-3 equivalents -A definition	-One equivalent - One synonym -A definition	- One equivalent
Pragmatic information	-five pairs of collocations were given	NG	-Usage restrictions: unified	**NG**
Encyclopedic information	NG	**NG**	-Found in the definition -Providing medical subfield	NG
Grammatical information	**NG**	**NG**	- Part of speech: Noun -Number: Singular Gender: Masculine	**NG**
Pictorial illustrations	**NG**	**NG**	**NG**	**NG**

It is noticed from table 2 that the four dictionaries differ in the way they present the lexical item 'cramp'. For instance, HMD lists two equivalents for the word without discriminating between them or even providing clarification about their meaning or their usage. Only HMD provides the equivalents (المَعَص) and (العُقَّال) separated by a comma followed by five English pairs of collocations, of the type noun + noun, containing the word 'cramp' as the second noun next to which are the Arabic equivalents for those pair of collocations. What follow is the entry of cramp as it is presented by HMD (p: 104).

cramp	المَعَص، العُقَّال
heat~	مَعَصُ الحر
muscle~	مَعَصٌ عَضَلِي
professional~	المَعَصُ المهني، أ العُقَال المهني
stomach~	مَعَصُ المَعد
writers'~	عُقَّال الكَتَبة، مَعَصُ الكَتَبة

Although providing collocations is recommended to contextualize the lexemes, this does not work adequately in HMD. This might be due to the fact that the inclusion policy of those collocations was not clarified by HMD; they might be regarded as a compound noun presented alphabetically under the entry of the main word.

For MCMD, two equivalents were provided at the beginning, similar to those given by HMD, followed by a brief definition about the concept and at the end, another third equivalent was supplied, (ملزَم). Commas were used to separate the given data. The given definition yet gives a clue to perceive the meaning; it does not clearly clarify it. It was only given that cramp is an

involuntary painful tightening(تشنج مؤلم لا إرادي) . It is recommended that the dictionary specifies the part of the body where the cramp occurs in order to help in order to help in getting closer to the suitable equivalents and collocations. For examples, if there is cramping in the stomach or the abdominal part, the word (مَغص) would fit and go smoother for ordinary people rather than (العُقَّال) and (مَعص) which need further explanation to be understood as they were taken from the classical variety and got to be more technical. However, if we are dealing with a leg cramp, the Arabic equivalent (تَشَنُّج) is used and not the one that goes with the stomach (مَغص). Once more, even though the given words (العُقَّال) and (مَعص) are full equivalents for the word cramp, they can be used to refer to the different body parts the English word referring to, provision of context and more clarifications are needed to perceive the exact meaning.

For the third equivalent listed by MCMD which is (مِلزَم) that refers to a portable tool for holding two planks etc together (Qamous Al maani) one could question the reason of its inclusion, especially it is not commonly used in this meaning neither in English nor Arabic. Checking the meaning in Longman dictionary of contemporary English, the online version, would prove that this sense of the word cramp is not commonly used as no provision for such a sense was found under the entry of cramp in Longman. What was found is:

cramp1 /kræmp/ noun 1 [countable, uncountable] a severe pain that you get in part of your body when a muscle becomes too tight, making it difficult for you to move that part of your body Several players were suffering from cramp. muscle cramps have/get (a) cramp One of the swimmers got a cramp and had to drop out of the race.→ writer's cramp2 → (stomach) cramps

Concerning the presentation of the word 'cramping' in UMD, it is surprising that this word was not found in this online dictionary that has four research options, viz. Exactly as, Contains, Starts with, and Ends with, nor was there a cross-reference or a hyperlink to guide the users to the entry of 'cramp'. What was provided by UMD for the word 'cramp' is an equivalent (المَغص) followed by other pieces of information like the number (singular), the gender (masculine), the part of speech (noun), restrictions on usage (unified), and finally an illustration about the word (provided below).

الشرح.مغص. ألم حشوي ناتج عن تشنج عابر ولاإرادي ومؤلم في بعض العضلات الحشوية مثل المعدة أو الأمعاء أو الرحم.

Illustration: Colic. Visceral pain caused by transient, involuntary and painful spasm in some visceral muscles such as the stomach, intestines or uterus.

Regarding the presented data in UMD for the word cramp, one may wonder why UMD allocated space for the number and the gender of the word where they are clear for the targeted audience of such type of dictionaries. It is assumed that a medical bilingual dictionary is designed either for native speakers' of Arabic or learners of Arabic who master a good command of this language so that they could know the gender and the number of the word. It sounds that such pieces of information are unnecessary and hence a waste of space. Their allocated space could be occupied by other useful information that contextualizes the word like the provision of illustrative sentences, collocations or connotations. For the

restrictions on usage supplied by UMD, the inclusion of such note would be questionable since this note was given without any useful hints of how to benefit from such illustration. The only given note is that it is unified; the same was given for the word 'amniocentesis'. So what does 'unified' mean as a restriction of usage?

As for, QT it was the only one that lists the word cramping as is. Below is the representation of the word 'cramping' in QT.

cramp	cramps	cramped	cramping		شنج, عاق, ثبت بملزم, مغص

Although no guiding instructions were stated by QT, it appears that it lists the English words on the left side and their Arabic equivalents following the same order on the right side. Yet, it sounds useful to indicate this by the lexicographers and not to leave it to the user's intuitions and guesses. Despite the fact that the given information was limited and decontextualized, the available equivalents are neutral and understandable by ordinary users because they were not taken from the classical variety. In this concern, empirical research on the users' perspectives about their perception of such words is recommended to indicate the usefulness of the given dictionaries according to the users' perspectives.

4.3 Down's Syndrome

The treatment of the term 'Down's Syndrome' in the dictionaries would not be tabulated as it is the case for the previous words, because the online dictionaries present it differently. UMD provides (6) results for 'Down's Syndrome' in a form of three entries whereas QT lists (10) results for it. Tabulating these results would not be readable for the readers because several items would be repeated in the same columns. Thus, it sounds more practical to discuss what each dictionary separately.

To start with HMD, HMD provides an English synonym for the word which is 'Mongolism' and it lists two Arabic equivalents, these are (متلازمة داون) and (المغولية). No other clarifications were given by HMD except for the aforementioned English synonym and the two Arabic equivalents. Here, it is noteworthy highlighting the importance of providing the connotation of the listed synonym, 'Mongolism, and its equivalent (المغولية). This was clearly discussed by (2015) who explained that while the terms, 'Down's Syndrome' and 'Mongolism', refer to the genetic disorder of having extra chromosomes; they do not share the same connotation. The first concept, 'Down's Syndrome' exemplifies the disease having the name of its discoverer, John Langdon Down, whereas the second term portrays the physical appearance of the patients as that of Mongols. This makes the second term offensive and burdened with a negative connotation. For this, (2015) calls for listing and clarifying term variants in terminological resources directed to translators.

The other paper-based dictionary, MCMD, lists only one equivalent which is (متلازمة داون). No other types of information were provided. While for UMD, three entries were given for the medical term 'Down's Syndrome' each of them contains an equivalent, grammatical information about the part of speech, restrictions on the usage, the subfield where the term is

used, and notes about the term. However, the second and the third entries provide an encyclopedic illustration of the term. Regardless of having different equivalent and being provided with English synonym, the rest of the information for the third entry are the same as those presented in the second entry for the term 'Down's Syndrome' in UMD. The equivalents given in the three entries may indicate that each of which is provided to be used in different contexts; however, no clue or illustration was given in this regard. The first equivalent, which is (مِتَلازِمَة داون تثَلُّث الصبغي)

(تثَلُّث الصبغي) , could be classified as an 'explanatory' equivalent because it gives more information about the term by inserting (تثلث الصبغي), trisomy. According to Zgusta (1971) explanatory or descriptive equivalents are those used to provide more information about the item they stand for in the target language.

The second equivalent given in the second entry is (مِتَلازِمَة داون). What set this entry out of the first one is the added encyclopedic illustration at the end of it and the given Arabic synonym at the beginning of the illustration. The illustration clarifies the term and provides a clear idea about it. Hence, it would meet the decoding needs of the users. The given Arabic synonym is the commonly used word for the term which would also enrich the entry and make it good for decoding purposes. However, it has to be clarified that this synonym, (المنغولية), has a negative connotation and is offensive. For the third entry, the term 'Down's Syndrome' is given as a synonym for another term which is 'Kalmuck type'. The Arabic equivalent for the main term, 'Kalmuck type', is provided, i.e. (نمط كالملوك). No pragmatic information was provided regarding the usage of this term or how it differs from its synonym. This may indicate that UMD has to care more about the provision of pragmatic information and to have a clear policy for discriminating between the equivalents.

For QT, ten results are found containing the term itself 'Down's Syndrome' or the first word of the term, Down. After eliminating the results that do not contain the term as one unit, six results are there, listed below.

Down's syndrome(21)	متلازمة داون (تثلث الصبغي 21)
Kalmuck's type (= Down's syndrome)	نمط كالموك (= متلازمة داون)
Down syndrome	متلازمة داون
translocation Down syndrome	متلازمة داون الازفائية
DS(Down syndrome)	مختصر متلازمة داون
Down's syndrome ||	ميلازمة داون, نوع من التخلف العقلي يسببه تواجد كروموزومات مختلة

Examining the provided results for the term 'Down's Syndrome' in QT, an inconsistency in the way of their presentations could be noticed. There is no clear rationale behind their

presentation in this order, is it due to their frequency of occurrence or as per their significance? One may question it. Moreover, lots of space could be saved if these data were organized more systematically. However, it is noticed that similar to MCMD, QT avoid giving the term's equivalent with negative connotation, (المغولية). Avoid listing this equivalent does not eliminate its existence and usage among people; yet, when inserting it, pragmatic information about its connotation has to be listed. Concerning the given illustration for the term in the last entry, it could be claimed that it is written in a clear and simple language which would make it easier for the users to understand it.

5. Conclusion and Recommendations

Having examined the treatment of three medical terms in the selected dictionaries, it is now possible to say that the examined dictionaries are more appropriate for encoding purposes. Most of the given equivalents are congruence, full equivalents, that they have a one to one correspondence to the English words on the levels of semantic, pragmatic and the lexical one. However, for these dictionaries to be adequate for translational purposes, they have to enrich and complement their entries with more pragmatic and encyclopedic information to meet the decoding function of the dictionaries. In this line it has to be highlighted that UMD appears to be superior to the other examined dictionaries in terms of the provision of illustration; nonetheless, it has to state its provision policy and to reconsider the presence of certain pieces of information as the part of speech. In fact, all of the examined dictionaries were found to avoid listing the provisioning policy of the words which may be problematic to the users. Users have to know the criteria of inclusion in order to know how to use the dictionaries and consequently how to deal with the provided information.

For further research, empirical research on the users' perspectives about their perception of the provided words in this type of dictionaries is recommended to indicate the usefulness of the given dictionaries from the users' perspectives.

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