

The use of translated materials in assessing CVA patients in Qatar: Problems and solutions

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Abstract

In Qatar, as well as in other parts of the Arabic-speaking world, assessment of patients who have suffered CVAs or other injuries leading to language deficits typically includes the use of surveys and questionnaires that have been translated into Arabic, generally from English. Such materials are used to assess the impact of the CVA on language, communication, quality of life, and social activities. The use of translated materials is common-place because assessment materials specifically developed for the Arabic language and culture are unavailable. The shortcomings of translated materials have not been widely recognized. Unfortunately, the simple truth is that many of these translated materials are unsuited for use in the local context, and this can have a significant impact on the lives of patients post-CVA. In this paper, we discuss this issue in some detail and propose a multiphase solution to mitigate the problems of using translated materials.

Keywords: CVA, aphasia, survey, questionnaire, translation, culture, Arabic.

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Background

CVAs (cerebrovascular accidents) are generally considered to be the most frequent cause of aphasia (language impairment), a result of lesions to areas of the brain involved in language processing. Aphasia can also be the result of traumatic brain injury (TBI) or certain progressive illnesses (Parr, Pound, Byng & Long, 1999). Although accurate statistics on the prevalence of aphasia in Qatar are lacking, data from other countries in the Gulf region indicate that the rate is likely to be in the vicinity of 0.36%. Hypertension is a key risk factor for CVA, and is implicated in approximately 50% of all CVAs. About 85% of CVAs are the result of a blockage and are referred to as ischemic, while about 15% are due to bleeding in the brain and are called hemorrhagic. A third of CVAs result in aphasia (Stroke Association, 2018).

While relatively little research on CVAs has been carried out in the Arabic-speaking world, there are two such studies that are particularly relevant to this discussion. The first of these is an investigation of 270 CVA patients conducted by Khan and colleagues (2008). Of these patients, 53 (19.6%) had had a hemorrhagic CVA and 217 (80.4%) had had an ischemic CVA. A majority of these patients were male, and for the group as a whole, the primary preventable risk factors for CVA were hypertension and diabetes. A majority of these individuals did not arrive at the hospital until more than three hours had elapsed since the onset of their CVAs. These delays appear to have been generally due to a lack of understanding of the nature of these individuals' symptoms.

In another study carried out in Qatar, Christos and colleagues (2013) investigated 262 CVA cases. The data showed that more than half of these CVA patients were under 55 years old, and that 7% of them were under 40. The investigators found that 30% of the patients could be classified as obese, and another 40% of them were overweight. Most patients were male, and a quarter of them had Qatari nationality. Of the Qatari nationals, key preventable risk factors included diabetes, hypertension, high levels of cholesterol, and tobacco consumption. It was also found that for the group as a whole, insufficient physical exercise increased the risk of CVA by about 80%.

When a patient is admitted to the hospital, medical professionals first work on reducing life-threatening issues and on stabilizing the patient. Once stabilized, patients must undergo a standard procedure in which cognitive, linguistic, and motor skills are assessed in order to gauge the immediate impact of the CVA. Because such tools are heavily informed by the culture and language for which they were developed, this necessitates an assessment of the efficacy of translated materials in guiding the medical professional to an accurate conclusion or diagnosis. Cognitive and linguistic assessments are thus the focus of the present paper.

Deficits in language use resulting from a CVA or other brain injury have an obvious and serious impact on a person's life. This impact may be lessened to the extent that caregivers and others can gain some understanding of the patient's wants and needs, but this is often challenging because of the patient's reduced ability to use language to communicate about such matters. As recovery progresses, surveys and questionnaires are often used as caregivers attempt to better understand patients' situations, and despite the obvious challenges if linguistic deficits persist, such tools can prove helpful in improving patients' lives. Indeed, the accurate assessment of patients' well-being can be a valuable contributor in helping patients achieve a better quality of life post-CVA than might be available to them otherwise. Furthermore, accurate language assessment batteries are an important guide for the speech and language therapist in efforts to develop suitable intervention and therapy.

However, in Qatar as in many parts of the Arabic-speaking world, these sorts of resources are not developed locally, but rather are "imported" via translation into the local language, with only minor adjustments for culturally inappropriate items. As a result, many studies assessing the quality of life and language impairment of patients post-CVA make use of surveys, questionnaires and other instruments that were developed for other contexts. They ignore important linguistic and cultural features of the Arabic language and society, and fail to take into account existing psycholinguistic research on Arabic. In short, these kinds of translated clinical and research materials are culturally unsuitable for the

local context. This is because they fail at multiple levels, i.e. socially, culturally, and religiously, as well as linguistically.

Available resources that are based on translations or conversions of assessment tools into Arabic from other languages include the Arabic versions of the Comprehensive Aphasia Test (Abou El-Ella et al., 2013), the Boston Diagnostic Aphasia Examination (Goodglass & Kaplan, 1983), and the Bilingual Aphasia Test (Paradis & El Halees, 1989; Arabic version), as well as the Kasr El-Aini Arabic Aphasia Test-KAAT (Sallam et al., 2002). These translated assessment tools use stimuli that have been directly translated into Arabic without taking into account a number of important factors, such as the linguistic structure of Arabic and the particular types of error patterns seen in aphasic patients in the Arabic-speaking world. The Arabic and English languages have profound phonological, morphological and syntactic differences, meaning that translated test items, even with some modification, offer poor coverage of relevant Arabic linguistic features, and fail to address differences between Arabic and English at the word and sentence level. Translated materials fail at the psycholinguistic level as well, because they have not been controlled in Arabic for key factors including age of acquisition, frequency, imageability, familiarity and length. Because of this failure to properly integrate Arabic linguistic features into these tools, diagnoses based on the information they provide may be incorrect or incomplete, leading to ineffective interventions. (For an exploration of related issues in an educational context, see Hidri, 2016; Sayahi, 2016; Tibi et al., 2016.)

One example of linguistic properties differing between English and Arabic has to do with the morphology of each language. Word-building in English is generally concatenative; that is, words are built in a sequence, generally through the additions of prefixes or suffixes to root forms. For instance, the word “unfriendliness” is built up from four morphemes ordered in the sequence “un-” + “friend” + “-ly” + “-ness.” On the other hand, Arabic is typical of Semitic languages in exhibiting non-concatenative morphological patterns (Grodzinsky, 1984; 2000; Zabbal, 2002). Typical root forms are tri-consonantal sequences, from which words are built up by interweaving vocalic patterns through those

roots. For example, the word /kutub/ meaning “books” consists of a root form /k-t-b/ (generally associated with meanings having to do with reading or literacy), combined with a vowel pattern indicating a plural: /CuCuC/. This is an instantiation of a more general CVCVC pattern, where in this specific case each “C” represents a consonant in the root form and each vowel is /u/. Although /kutub/ thus contains two morphemic forms, neither of them constitutes a free (independently standing) word form on its own.

As a result of these differences in constructing words, the kinds of errors found in Arabic-speaking aphasics can be quite different from those seen in aphasia in English. As one example, consider the result of omitting a bound grammatical morpheme in English – the result will probably be a phonologically legal form, or even a real word. For example, omitting “-ship” from “friendship” still leaves a grammatical form “friend.” On the other hand, in the non-concatenative morphological system of Arabic, such omission errors can lead to forms which are not only not real words, but in fact are phonologically illegal (Mimouni & Jarema, 1997; Mimouni, Kehayia & Jarema, 1998; Grodzinsky, 1984, 2000). For example, if the vowel pattern indicating plurality is omitted from the word /kutub/ discussed earlier, the result is the form /ktb/, which is a phonologically illegal sound sequence in Arabic. Assessments translated directly from English cannot systematically investigate whether aphasic Arabic speakers show these sorts of deficits.

Similar issues arise due to other cross-linguistic differences at the syntactic and morpho-syntactic levels. For instance, unlike in English, adjectives in Arabic must show agreement in gender and number with the nouns they modify. In formal Arabic, nouns are also marked for case, which reflects the role played by the noun within the sentence. English nouns are not marked in this way, although the distinction exists in some English pronouns, such as in *I, he, she* (referring to subjects) versus *me, him, her* (referring to objects). In contrast, the case system in Arabic is far more extensive, with three different cases distinguished, as in *kitaabu* (“book” in a subject role, i.e. nominative case), *kitaabi* (“book” in a possessive role, i.e. genitive case, which in English is usually indicated using “apostrophe-s” as in “book’s”), and *kitaaba* (“book” as direct object, i.e. accusative case).

The rules governing how sentences are built also differ in numerous ways. One example of this is the flexibility of word order within sentences. English sentences are relatively fixed in a Subject-Verb-Object word order, while word order is somewhat more flexible in Arabic. In English, sentences have an inflected verb, which may be a form of the copula verb “to be.” In an Arabic sentence, the verb can occur at the beginning of the sentence but is not required to do so, and may have a “nominal sentence” structure lacking an overt verb form, with no copula verb and therefore no overt verbal inflection (e.g. *albayt kabir*, literally “the house big,” meaning “the house is big”). Again, translated materials do not enable clinicians or researchers to examine adequately whether linguistic deficits specific to these linguistic features of Arabic are present.

In addition to the kinds of purely linguistic shortcomings just discussed, translated materials often fail at a cultural level as well. For instance, when attempting to elicit information about impacts on social activities in patients’ lives post-CVA, researchers or clinicians using these materials are obliged to make references to situations much more typical of Western culture than that of Qatar. Examples of this include the English-to-Arabic translations of the PALPA, BDAE and BNS assessments, which refer to items like “wine,” “church,” and “beer.” For religious and cultural reasons, these references are not appropriate for Muslims, who constitute the great majority of the world’s Arabic speakers. Similarly problematic items include references to walking one’s dog, gathering for drinks at the pub, gathering with one’s family at Christmas, and so on. While some minor, strategic switching of vocabulary can offset a few of these problems (e.g. changing the word “Christmas” to the name of a suitable Islamic holiday), this kind of stopgap measure falls far short of offering a complete solution to this problem. This is because even with such changes, translated tests fail to take into account the full range of possible adverse effects of CVA in patients’ personal and cultural lives.

For example, a recurring issue mentioned by many patients in Qatar has to do with the social obligation of *azeema* (plural *azayem*), which refers to a specific kind of culturally-based event. One attends tribal gatherings where people interact as generous quantities of

food are served, and one has to switch to a different register (form of language) than would be used in ordinary day-to-day life. Obviously, the typical situation is that attendees understand the cultural norms involved and the expectations about how language should be used at such occasions, and are able to navigate through these events successfully and enjoy them. However, because of deficits due to CVA or injury, patients are often unable to function linguistically at these events in a culturally appropriate way, and they tend to find this very embarrassing and frustrating. Patient studies relying heavily on translated materials are unable to take into account these kinds of culturally specific impacts.

In sum, translated surveys and questionnaires fail to address a host of linguistic and cultural issues specific to the Arabic-speaking world, and as a result they leave important gaps in the information they provide about patients' quality of life. As yet, there is a general lack of reliable and valid assessment tools for aphasic patients in Qatar and the rest of the Arab World. The tools that are in use fall short of providing an accurate and complete picture of linguistic processing in these individuals. Because interventions can only be effective to the extent that they are informed by accurate assessments and diagnoses, the need for better assessment tools in Qatar is clear. Only then can accurate conclusions be reached, supporting interventions that are best able to have a positive impact on patients' quality of life post-CVA.

Proposed solution

The issues raised in the preceding discussion demonstrate a clear need for the development of research and clinical tools which take into account the relevant linguistic and cultural characteristics of Qatar and other Arabic-speaking regions, and which incorporate relevant linguistic and psycholinguistic data. Such language assessments should be based on data that originate from native speakers of the dialect of Arabic specific to the region in question. Any proposed solution should incorporate a multi-stage process to develop suitable materials.

Surveys and questionnaires must be informed by local social norms, as determined by open-ended questions during interviews with patients (Doward, Meads & Thorsen,

2004). Below, we outline our proposal taking into account the various factors discussed above.

First, it is essential to undertake a review of the key findings of “the psycholinguistics of Arabic,” both in general terms and with respect to the local dialect in question. This stage should include a comprehensive survey of such findings in relation to linguistic components of Arabic including syntax, morphology and phonology. Only in this way can informed decisions be made about which linguistic features should be addressed in the assessment. This determination will guide the selection of stimuli and the formulation of aphasia subtests.

Second, any questionnaire or survey that is used should be developed in such a way that it is in line with the locally prevailing culture. The approach to be used in developing such materials, as well as in the process of collecting information from patients, should be based on multiple qualitative approaches that are carefully designed to incorporate specifically local issues. Such qualitative approaches include the use of focus groups to explore and delineate relevant subject areas and social territory. The outcomes of these qualitative analyses should be used to determine the items that are most relevant in social as well as practical terms, before the decision is made about whether to include them in a given questionnaire or survey.

Third, the development of assessments and surveys must recognize the need for normative databases from which stimuli or other items can be selected. This stage involves the collection of normative data for a set of nouns, concepts, pictures, verbs/actions, and adjectives that will be used in devising the aphasia subtests. Normative data should be collected for response latencies, name agreement, familiarity, age of acquisition, imageability, concreteness, image agreement, and the visual complexity of accompanying illustrations. The normative database should incorporate other intrinsic features for each item in the dataset, including number of phonemes, number of syllables, and animacy. Spoken frequency databases are not readily available for local varieties of Arabic, but Boudelaa and Marslen-Wilson (2010) recently developed a frequency database – Aralex –

which provides information about the orthographic frequencies of Modern Standard Arabic words.

Finally, the development of the tests and surveys themselves should strive to meet the following criteria. (1) The materials should be comprehensive, covering a range of language-based skills. (2) They should be clinically useful. (3) They should be relatively brief, in order to avoid patient fatigue. (4) They should be practical, taking into consideration the time limitations clinicians have to assess a patient. (5) They should be maximally informative, in that they take into account contemporary knowledge of prevailing linguistic and cultural norms. (6) They should serve to guide clinicians toward further assessment strategies and treatment plans that are directly related to the patient's identified problems. (7) They should be capable of being used to assess changes in a patient's status over time.

To the best of our knowledge, the only assessment tool meeting the foregoing requirements, and which is being specifically developed for the Arabic language, is the "Aphasia Battery for Gulf Arabic" (Khwaileh, Mustafawi, Howard & Herbert, 2016). The development of this tool, which is still underway, involves four phases. The first is a comprehensive review of Gulf Arabic linguistics and psycholinguistics. The second phase plans the development of a linguistically-informed normative database. Following this is the development of a comprehensive set of aphasia subtests, including a cognitive screen, a language battery, and a disability questionnaire. The fourth and final stage is a validation of the battery subtests with control participants and patients with aphasia.

Conclusion

The situation discussed in this article carries important implications for people in Qatar and in the wider Arabic-speaking world who are involved, directly or indirectly, with recovery from CVA or injury resulting in language impairment. Existing materials seeking to evaluate the quality of life of people in such situations tend not to be adequate, for social as well as linguistic reasons. We have presented one way forward which is aimed at mitigating

this problem. Materials addressing social and linguistic needs particular to the local culture and community should be developed by local experts, or at least in consultation with them. More broadly, we suggest that similar measures can be taken in other countries and communities facing similar issues with their own patients and the materials used in evaluating them. It is hoped that by following these recommendations, professionals and other caretakers will be better able to impart an improved quality of life to these patients and those close to them.

Finally, we note that while translations from English to Arabic are problematic in the numerous ways we have discussed, such problems are less likely to carry over from one Arabic-speaking region to another, because of the linguistic similarity of different Arabic dialects and the cultural similarities of various Arabic-speaking regions. Therefore, the kinds of tools we recommend be developed for aphasia patients in Qatar could be successfully adapted for use with other Arabic dialects, requiring only minor changes.

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