

Standardization of an Arabic Version of the Overall Assessment of the Speaker's Experience of Stuttering for Adults OASES-A-A

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Abstract

Background: Stuttering is a multifaceted disorder that needs comprehensive assessment.

Aim of Study: This study aims to provide a standardized Arabic version of the OASES-A questionnaire in order to meet the need for comprehensive evaluation of stuttering.

Material and Methods: The original English version of the OAESE-A was translated into Arabic using forward and backward translation, and was administered to 133 adult participants together with Arabic stuttering severity instrument (ASSI). Reliability was measured by internal consistency reliability and test retest reliability. Seventy-six participants were subjected to retest after 1-3 weeks interval to measure reliability. Convergent validity was measured by the correlation between the test items and the ASSI.

Results: One hundred thirty three person who stutter participated (PWS) in this study, 83 male and 50 female, with mean age of 28.4 years (range of 18 to 51 years). OASES-A-A showed high internal consistency (Cronbach's alpha >0.80), and a good test-retest reliability ($r=0.88-1.00$). Construct validity was confirmed by the positive correlation between the test items and the ASSI.

Conclusion: Arabic OASES-A has demonstrated a high degree of reliability and validity.

Key Words: Stuttering – Arabic questionnaire – OASES.

Introduction

STUTTERING is a multifaceted fluency disorder that presents with core and secondary behaviours in addition to unfavourable feelings and attitudes [1]. The core behaviour of stuttering include intra-phonemic disruptions, sound, syllable or word repetitions, and or inappropriate tense or silent pauses [2]. The secondary behaviours may involve

eye blinking, jaw twitches or head movement in addition to some physiological reactions in the form of palpitations or flushing [3]. The collaborative effects of these components may lead to variable degrees of social withdrawal and impaired productivity in work environment [4]. The imagery of the 'iceberg of stuttering' is often used to state that what we see is not all what the person who stutter suffers from [5]. Under the surface remains negative emotions, lack of self-esteem and maladaptive perfectionism that are directly proportionate to the severity of stuttering and need to be explored during the assessment procedure [6].

Stuttering assessment protocols and questionnaires have been solely directed to measure the frequency of dysfluencies [7]. This model of evaluation has been considered unidirectional and lags behind the multifaceted nature of stuttering [8].

The World Health Organization's International Classification of Functioning, Disability, and Health [9] states that defining a specific disorder should not only consider its symptoms, but also its effect on patient's quality of life. The diagnostic and statistical manual of mental disorders, the fifth version, has considered the secondary behaviours of stuttering and the resultant negative attitudes to be parts of the disorder itself [10]. Brundage et al., [11] deduced that a comprehensive tool for stuttering evaluation should cover six core areas which are; stuttering related framework or circumstances, personality development together with speech and language development (in children who stutter), the flow of speech and the presence of dysfluencies, the speaker's reaction to his own dysfluency, the listeners' reactions to dysfluency, and the social impact of stuttering.

The Overall Assessment of the Speaker's Experience of Stuttering adopts the ICF model of evaluation and covers all the aspects of stuttering

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[12,13]. It gives the person who stutters the opportunity to judge the impact of stuttering on communication and his psyche from his own perspective. Yaruss and Quesal designed three English versions of OASES, the OASES-A for adults (18 years old and above), the OASES-T for teenagers (age 13-17 years), and the OASES-S for school-age children (age 7-12). The adult version consists of 100 items in four separate sections that cover the various aspects of stuttering including: Section I, 'General Information' (20 items). Section II, 'Reaction to Stuttering' (30 items). Section III, 'Communication in Daily Situation' (25 items). Section IV, 'Quality of Life (QOL)' (25 items). Being a useful tool for evaluating the QOL or the impact of stuttering on the daily life of people who stutter, [14] and also the outcome of therapy programs; [15] the OASES-A has been translated into several languages and adapted to different cultures [16,17,18].

The lack of such Arabic comprehensive questionnaire has urged the need for its translation and standardization.

The aim of this work is to provide a standardized Arabic version of the OASES-A questionnaire in order to meet the need for comprehensive evaluation of stuttering.

Material and Methods

This cross-sectional study has been conducted on 133 adult individuals who stutter with variable degrees of stuttering severity. Patients were recruited from the Phoniatrie outpatient clinic, Otolaryngology Department, Faculty of Medicine for Girls, Al-Azhar University from November 2018 – April 2021. Individuals with psychiatric disorders, that might affect their responses to the test items, or other communication disorders were excluded from the study.

All the participants underwent complete history taking and Phoniatrie evaluation, including ASSI [19] and the translated OASES-A. ASSI (Arabic stuttering severity instrument) gives a single numerical representation of severity from 0 to 45 that includes the sum of scores of the three parameters (frequency of stuttered words per 100 words, duration of the three longest blocks and the observable physical concomitants). It classifies the severity of stuttering into slight (scores between 0-20), mild (scores between 21-24), moderate (scores between 25-31), severe (scores between 32-35), and very severe (scores between 36-45).

Arabic translation of the OASES-A (appendix): The original OASES-A [12,13] has been translated into Arabic by the two authors, followed by back-

word translation into English by two professional translators to ensure the accuracy of the Arabic translation. Translation was not exclusively literal and minimal adjustments (modification) were done to meet the Arabic context and culture, as assumed in other versions of the test [20]. Backward translation is a measure of quality, and hence, the translators who performed it were not involved in the Arabic translation and have no previous knowledge of the questionnaire. The Overall Assessment of the Speaker's Experience of Stuttering – Adults (OASES-A) consists of 100 items, each one with a score in the range from one to five, based on the Likert scale, and has a completion time of approximately 20 minutes [13]. The scores provide an indication of the impact that stuttering has on many aspects of the speaker's life. This impact is classified as; mild (scores between 20-29.9), mild to moderate (scores between 30-44.9), moderate (scores between 45-59.9), moderate to severe (scores between 60-74.9) or severe (scores between 75-100).

Psychometric evaluation of the Arabic OASES-A:

- Test reliability: Test reliability was measured by internal consistency reliability and test retest reliability. Seventy-six participants have performed a re-test after an interval of 1-3 weeks according to participant's availability.
- Construct validity has been examined by measuring the correlation between the Arabic OASES A and ASSI.

Statistical analysis: The Statistical Package for Social Sciences (SPSS) version 20 was used for data entry and analysis. Cronbach's alpha and test-retest correlation coefficient (r) were used to assess the reliability of OASES-A. A coefficient above 0.80 suggests a good internal consistency and reliability [21]. Pearson correlation coefficient was used to measure the inter correlation between OASES-A sections and between them and SSI scores.

Results

Table (1) shows the demographic data of the 133 participants in the study. Eighty-three male and 50 female PWS in the age range of 18 to 51 years (mean age: 28.4 ± 7.7 years).

Table (2) shows the stuttering severity among the participants. Fifteen (11.27%) of the participants suffered from very mild stuttering, 24 (18.04%) were mild, 48 (36.1%) were moderate, 28 (21.05%) were severe, and 18 (13.53%) had very severe stuttering.

Table (3) shows the frequency of responses of the participants according to OASES-A-A in its different sections. In section 1: 38 (28.57%) were mild to moderate, 48 (36.1%) were moderate, 12 (9%) were moderate to severe, and 35 (26.3%) were severe. In section 2; 24 (18%) were mild to moderate, 25 (18.8%) were moderate, 38 (28.57%) were moderate to severe, and 46 (43.58%) were severe. In section 3; 28 (21%) were mild to moderate, 57 (42.85%) were moderate, 24 (18%) were moderate to severe, and 24 (18%) were severe. In section 4; 51 (38.34) were mild to moderate, 36 (27%) were moderate, 45 (33.8%) were moderate to severe, and 1 (0.75%) was severe. In the total rating, 29 (21.8%) were mild to moderate, 62 (46.6%) were moderate, 29 (21.8%) were moderate to severe, and 13 (9.77%) were severe.

Table (3): Frequency of responses in different sections of the OASES-A-A.

	Mild to moderate	Moderate	Moderate to severe	Severe	Total
Section 1 Impact rating	38 (28.57%)	48 (36.1%)	12 (9%)	35 (26.3%)	133 (100%)
Section 2 Impact rating	24 (18%)	25 (18.8%)	38 (28.57%)	46 (43.58%)	133 (100%)
Section 3 Impact rating	28 (21%)	57 (42.85%)	24 (18%)	24 (18%)	133 (100%)
Section 4 Impact rating	51 (38.34%)	36 (27%)	45 (33.8%)	1 (0.75%)	133 (100%)
Total Impact rating	29 (21.8%)	62 (46.6%)	29 (21.8%)	13 (9.77%)	133 (100%)

Table (4) shows the internal consistency among the sections of QASES-A-A. Cronbach's scores for the four sections were between 0.91 and 0.97.

Table (4): Internal consistency (Cronbach's α) of QASES-A-A-sections.

QASES-A-A-sections	Number of items	Cronbach's α
- Section I: General information	20	0.96
- Section II: Relations to stuttering	30	0.97
- Section III: Communications in daily situations	25	0.96
- Section IV: Quality of life	25	0.91
Total impact score	100	0.98

Table (5) shows the correlations of impact scores between the first and the second administrations of the OASES-A-A for the 76 adults who stutter. These correlations were significant in all sections, ranging from 0.88 to 0.1.

Table (1): Demographic data of the participants.

Demographic characteristics	Number=133	
<i>Age (Years):</i>		
Mean \pm SD	28.4 (\pm 7.7)	
Range (minimum-maximum)	18.0-51.0	
<i>Sex:</i>		
	Number	%
Male	83	62.4
Female	50	37.6

Table (2): Distribution of severity of stuttering among participants.

ASSI	Number	Percent
Very mild	15	11.27
Mild	24	18.04
Moderate	48	36.1
Severe	28	21.05
Very severe	18	13.53

Table (5): Test-retest reliabilities of impact scores of QASES-A-A.

QASES-A-A-sections	Retest reliability
- Section I: General information	$r=0.88^*$
- Section II: Relations to stuttering	$r=1.00^*$
- Section III: Communications in daily situations	$r=1.00^*$
- Section IV: Quality of life	$r=0.99^*$
Total impact score	$r=1.00^*$

*Correlation is statistically significant ($p<0.05$).

Table (6) presents the correlations among the Impact Scores of four sections. All the sections of the OASES-A-A were highly correlated to each other ($r=0.79$ to 0.95).

Table (6): Correlations among sections impact scores of QASES-A-A.

QASES-A-A-sections	Section I	Section II	Section II	Section III	Section IV
- Section I: General information	–	–	–	–	–
- Section II: Relations to stuttering	$r=0.89^*$	–	–	–	–
- Section III: Communications in daily situations	$r=0.83^*$	$r=0.93^*$	–	–	–
- Section IV: Quality of life	$r=0.88^*$	$r=0.88^*$	$r=0.79^*$	$r=0.79^*$	–
Total impact score	$r=0.91^*$	$r=0.95^*$	$r=0.87^*$	$r=0.87^*$	$r=0.85^*$

*Correlation is statistically significant ($p<0.05$).

Table (7) shows the total OASES-A-A Impact score, as well as those of the four sections, correlated significantly with the ASSI scale scores. The highest correlation, $r=0.65$, was observed between the ASSI and section III impact scores. The lowest but still significant correlation, $r=0.52$, was observed between the ASSI scale and Section IV impact score.

Table (7): Correlations between sections impact scores of QASES-A-A and ASSI score.

QASES-A-A-sections	SSI score
- Section I: General information	$r=0.57^*$
- Section II: Relations to stuttering	$r=0.63^*$
- Section III: Communications in daily situations	$r=0.65^*$
- Section IV: Quality of life	$r=0.52^*$
Total impact score	$r=0.64^*$

*Correlation is statistically significant ($p<0.05$).

Discussion

An effective questionnaire should provide the clinician with the needs and goals of the participants in addition to the potentials that they already have.

A detailed analysis of the results of the questionnaire should lead the clinician to tailor an effective therapy strategy that matches the patients' needs and expectations. The comprehensive nature of the OASES and the validity of its original English version and the Japanese and Brazilian translated versions induced the authors to perform an Arabic translation of the test and to examine its validity for use among Arabic individuals who stutter. The responses of the 133 Egyptian adults who stutter, for the OASES-A Arabic version were psychometrically analysed. The results showed that the OASES-A-A has good internal consistency.

The internal consistency of the 4 domains of the translated Arabic version was strong, this strength reflects the harmony and the interrelatedness of the

domains of the questionnaire [22]. Good internal consistency is considered when Cronbach's coefficient is above .70 [21]. In clinical settings the test is sufficiently reliable when Cronbach's coefficient above .80 [23]. The Arabic version of the OASES-A showed Cronbach's scores between 0.91 and 0.9 which reflects strong internal consistency between test domains (Table 4).

Test-retest reliability reflects the consistency of the responses provided by the participants after repeated conduction of the same test, [21] with reliability indices above .80 for all the test parameters, the OASES-A-A is considered highly reliable for application (Table 5).

The validity has been measured through examining the correlation between the impact scores of all domains of the test (Table 6) in addition to the correlation between the Arabic OASES-A and the ASSI (Table 7). The results showed that all domains of the Arabic OASES-A are strongly correlated.

The ASSI is an objective, valid and reliable tool for assessing stuttering severity among children and adults who stutter. It classifies the severity of stuttering into slight, mild, moderate, severe and very severe according to the subjects' scores. Although it was not possible to establish an equivalence between the degree of severity, as measured by ASSI, and the self rating, according to OASES-A-A, there was a significant correlation between the impact Scores of the OASES-A-A and the ASSI (Table 7). The highest correlation, was observed between the ASSI and the section III impact scores, which examines the difficulties a speaker has when communicating in daily situations. The lowest but still significant correlation, was observed between the ASSI scale and the Section IV impact score, which measures the negative impact of stuttering on a person's overall quality of life (by examining factors such as the speaker's satisfaction with communication and whether stuttering interferes with the speaker's relationships with others). This significant correlation between the total OASES-A-

A Impact score and the Impact Scores of the 4 sections of the OASES-A-A and the ASSI supports the validity of OASES-A-A. On the other hand, Bragatto et al., [18] found that the correlation between OASES-A and SSI3, [24] was statistically non significant. This may be attributed in part to the small sample included in the study (18 adult who stutter) in addition to different cultural and ethnic background, which control the individual reaction to the severity of stuttering. Sakai et al., [25] reported that that affective reaction to stuttering and the impact of stuttering on the individuals' quality of life differ among nations, as Japanese individuals showed significant correlation between OASES-A and other measures of speech satisfaction such as Erickson S-24 scale and self-assessment (SA) scale [26].

They referred these results to the fact that Japanese population suffer from anxiety and a greater sense of shame [27]. Finally, they deduced that the OASES-A is a valid tool and its translation did not affect its validity in measuring the impact of stuttering.

Conclusion:

Arabic OASES-A has demonstrated a high degree of reliability and validity.

Conflicts of interest:

The authors declare that the research was conducted in the absence of any potential conflict of interest.

Acknowledgement:

For Professor J Scott Yaruss. The OASES, as well as all translations and derivatives, are owned by Stuttering Therapy Resources, Inc, which holds all copyrights there to. Information about official translations of the OASES can be found at <https://www.StutteringTherapyResources.com>.

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التوحيد القياسي للنسخة المعربة لاختبار تقييم خبرة المتعلمين البالغين

الهدف: يهدف هذا البحث إلى تقديم نسخة معربة موحدة إحصائياً لاختبار تقييم خبرة المتعلمين البالغين.

الأساليب: تم ترجمة النسخة الإنجليزية للاختبار إلى اللغة العربية ثم تطبيقها على مائة وثلاث وثلاثين متعلم بالغ تقييم شدة التلعثم لديهم باختبار شدة التلعثم المعرب. ثم عمل التوحيد الإحصائي للنسخة المعربة.

النتائج: أظهرت النسخة المعربة للاختبار معاملات ثبات تقارب الواحد الصحيح.

الخلاصة: تتمتع النسخة المعربة لاختبار تقييم خبرة المتعلمين البالغين بالثبات وصدق التكوين.