Research Article:

Validity and Reliability of the Persian Version of Language Screening Test (LAST) for Patients in the Acute Phase of Stroke

Seyyede Zohreh Mousavi[1] , Reyhaneh Jafari[2] , Saman Maroufizadeh[3] , Mohammad Moez Shahramnia[4] , Mahsa Pourmohammadi[4] , Nahid Jalilehvand[2,4*]

1. Department of Speech Therapy, School of Rehabilitation Sciences, Iran University of Medical Sciences, Tehran, Iran.
2. Department of Communication Science and Disorders, Wayne State University, Detroit, USA.
3. Department of Nursing, School of Nursing and Midwifery, Guilan University of Medical Sciences, Guilan, Iran.
4. Department of Speech Therapy, Rehabilitation Research Centre, Iran University of Medical Sciences, Tehran, Iran.

Conflict of interest

The authors declared no conflict of interest.

ABSTRACT

Background & Objectives: Aphasia is one of the most common consequences of a stroke; thus, screening tests for early diagnosis of the problem are necessary when dealing with aphasia patients. One of these screening tests is the Language Screening Test (LAST). The purpose of this study was to translate, validate, and utilize this test in the Persian language for patients after stroke.

Methods: The original version of LAST was translated into Persian, and then administrated on 100 patients in the acute phase by two examiners at the patient's bedside in order to check the inter-rater reliability. To assess the agreement between the two forms (a and b) of the LAST, Concordance Correlation Coefficient (CCC), weighted Kappa, and Intraclass Correlation Coefficient (ICC) were used. Also, the Persian version of LAST and the Western Aphasia Battery (WAB) were performed at the chronic phase with two independent examiners with blind scoring.

Results: Inter-rater reliability between Rater 1 and Rater 2 on LAST-a and LAST-b score were very good for both phases. The CCC for LAST-a and LAST-b, respectively, were 0.874 and 0.865 for the acute phase and 0.923 and 0.927 for the chronic phase. The weighted Kappa for LAST-a and LAST-b, respectively, were 0.750 and 0.740 for the acute phase, and 0.822 and 0.846 for the chronic phase.

Conclusion: The obtained results showed that LAST is a very simple, fast, and valid test and can be used as a reliable tool in stroke patients. Lack of cultural and language dependency are the advantages of using this test.

Keywords: Language Screening Test, Validity, Reliability, Stroke, Aphasia

Use your device to scan and read the article online

* Corresponding Author:
Nahid Jalilehvand, PhD.
Address: Department of Speech Therapy, Iran University of Medical Sciences, Tehran, Iran.
Tel: +98 (21) 2222 8051
E-mail: jalilevand.n@iums.ac.ir

↑ *What is "already known" in this topic:*

Aphasia is an acquired language disorder caused by brain injury and affects the individual's abilities for communication. The screening tests can quickly (less than 10 minutes) determine the presence/absence of aphasia and indicate the need for additional evaluations. One of these screening tests is the language screening test [LAST].

➡ *What this article adds:*

This study showed that the Persian version of LAST is a valid and reliable test. It could be completed in a short time, which makes it a suitable tool for aphasia measurement at the bedside.

1. Introduction

Aphasia is a language disorder caused by brain injury, which can affect the patient's ability in comprehension, speech production, reading, and writing [1]. This disorder is one of the most common consequences of stroke. Approximately, 24-30% of patients experience different types of aphasia after a stroke and the rate of recovery varies in these patients [2-4]. With regards to treatment, rehabilitation of aphasia has been shown to be effective in improving functional communication, receptive, and expressive language. Almost one-third of stroke patients experience difficulty in all of their language modalities and they use speech and language pathology services for managing their communication disorders [5]. Various studies have shown that early diagnosis of aphasia following stroke is important and considerably helps the process of communication disorder therapy [6, 7].

Accurate assessment of aphasia is the basis for organizing an effective treatment plan and providing the patients and their families with efficient instructions on how to cope with this issue in their daily life. Above all, an early diagnosis of aphasia can prevent delay in patients' access to rehabilitation services. There are two general types of tests in aphasia evaluation. Comprehensive aphasia evaluation tests are standard tests that fully assess several areas of language and communication abilities in people with aphasia. Consequently, they are usually long and take approximately 1 to 2 h or more [8-10]. On the other hand, screening tests that can be performed in a short period of time, less than 10 min, are preferred [11-13]. These tests can quickly determine the presence/absence of aphasia and indicate the need for additional evaluations [14]. These features make them suitable for the early stages of stroke when the patient does not have

the strength to endure long tests [14]. In addition, all professionals can perform aphasia screening. Therefore, it can help in referring patients to speech and language pathologists easily. Also, these tests help in the early diagnose of aphasia, because in some cases, it is difficult to diagnose the disease; especially if the severity of the case is mild or there are unusual symptoms [15]. These diagnostic errors may delay patients' access to specialized treatment and rehabilitation.

One of these screening tests is the Language Screening Test (LAST), which was first designed in 2011 by Roze-Flamand et al. in French who stated that standard aphasia scales, such as the Boston Aphasia Diagnostic Test, are not suitable for patients with aphasia in the acute phase. The screening test consists of two parallel versions (a and b) and each version has two main parts: 1) Expression index, including repetition, naming, and automatic speech tasks, and 2) Receptive index, including picture recognition and verbal instructions tasks. There are generally 15 items in each version that focus on language aspects. These two separate versions were developed by the authors to avoid retest bias. LAST can rate language disorder in patients and determine the severity of aphasia in a short 2-3-minute test in the acute phase with bedside testing [16].

Accurate and early identification of aphasia and its characteristics are required for planning treatment in the acute phase [6, 7]. Primary and effective therapy in patients with aphasia improves the outcomes, such as the severity of aphasia and communication. As a result, screening tests for early diagnosis of the problem are essential when dealing with aphasia patients.

Regarding validity and reliability, the LAST has been translated into different languages and used in different populations, and its validity and reliability have been tested in those languages. Currently, this test is available in Mandarin [17] French-Canadian [18] English [19],

French [16] German [20], and Chinese [21]. As previous studies have shown, this test must be adapted for use in other languages; thus, the purpose of this study was to translate, validate, and utilize this test for patients after stroke with bedside testing in the Persian language.

2. Materials and Methods

There is no appropriate screening test for stroke patients in the acute phase in Iran; thus, LAST has been used because of its practical use and shortness for assessing different domains of communication ability in the acute phase of aphasia.

In this methodological study, the original version of the test was translated into Persian after obtaining developer permission in accordance with the standard international quality of life assessment method. The translation procedure was completed in five steps. In the first step, two qualified translators, who were native speakers of Persian, translated the original LAST test to Persian. They were not familiar with the test. In addition, the translators provided a list of alternative translations for some words, phrases, and sentences whenever they felt it was necessary.

In this step, we emphasized the conceptual equivalence of the items in the test. Secondly, the translators scored the difficulty of translation for each word, phrase, and sentence on a 100-point visual scale. In this scale, the score of zero indicates the easiest, and 100 indicates the most difficult translated items. The mean score of the two translators was used to determine difficultness. A mean score of below 25 was considered as easy, a mean difficulty score between 25 and 30 was considered as relatively easy, and a mean score higher than 30 was considered difficult.

Next, to assess the quality of the translation, the translated version of the test was sent to another two qualified translators. The quality of translation means the clarity of phrases and sentences (use of simple and comprehensible words), the use of common language (abstaining from using specialized and artificial words), and concept uniformity. Scoring in this step was done using a scale of 0 to 100 (0 means no quality and 100 means the highest quality). The fourth step was the backward translation. In this step, we asked two new translators to translate the Persian version of the LAST test into French. The aim of this step was to see whether the content of items in the translated version reflects the content of the original version. In the last step, the final translated version was given to specialists to review and revise word appropriateness, culturally appropriate vocabulary, word misun-

derstanding, and difficulty to understand the content. The result of the above-mentioned steps was a well-translated Persian version of the LAST test.

Participants

In this study, 100 patients with stroke were recruited from hospitals affiliated to Tehran and Iran University of Medical Sciences. Inclusion criteria were unilateral damage to the left hemisphere following a stroke that was confirmed by a neurologist with brain imaging (CT or MRI) in the acute phase, being a native speaker of Persian language, and right lateralization. Also, we excluded participants who had mental problems, visual or hearing problems, consciousness disorders, those who had a medical history of other neurological diseases, such as Parkinson's disease or multiple sclerosis, and a previous history of stroke

Then, both Persian versions of the LAST (a and b) were randomly performed in the acute phase of the disease, i.e., 24 h after admission. This was done by two examiners (graduated speech and language pathologists with clinical experience) at the patient's bedside. Each version took approximately 2 min to fill with a total time of around 4 min. In order to check the reliability of the raters, one examiner ran the test and read items out aloud. At the same time, the other examiner scored the patient's responses without looking at the scores of the first examiner. All scores obtained in this stage were recorded for further analysis.

Procedure

The LAST contains two parts, receptive and expression index, and it has 15 items and 5 subtests. To prevent retest bias, two similar versions (a and b) have been designed.

The tests

Receptive index: 1) Recognition with word-picture matching (matching 4 words out of 8 pictures), and 2) Verbal instructions tasks (simple, semi-complex, and complex).

Expression index: 3) Naming black and white pictures, 4) Verbal repetition of the sentence and word, and 5) Automatic speech of counting from 1 to 10.

Finally, two separate scores were achieved. Scoring for the receptive index was 7 and for the expression index, it was 8 and a total score of 15 was obtained.

A correct and immediate response scored 1 (answered in less than 5 s), otherwise, we recorded the score as 0.

Mousavi et al. Persian Screening Test for Stroke Patients in Acute Phase . Func Disabil J. 2020; 3:91-100.

93

In this study, the LAST and Persian WAB, which were adopted from Western Aphasia Battery (WAB-R) and validated by Nilipour et al. (2014) for determining Aphasia Quotient [22], were also performed at the chronic phase. These two tests were performed in one day and there was an interval after the first test. At this stage, two independent examiners using blind scoring were used for determining inter-rater reliability.

Statistical analysis

The inter-rater reliability as well as the agreement between two forms of the test were assessed using Concordance Correlation Coefficient (CCC), Intraclass Correlation Coefficient (ICC), and weighted Kappa. The CCC evaluates the degree, to which pairs of observations fall on the 45° line through the origin. In order to examine the relationship between the LAST and WAB scores, the Pearson correlation coefficient was used.

The paired t-test was used to compare the difference between acute and chronic phases in the LAST scores. The relationships between LAST scores and demographic and clinical variables were examined using Pearson correlation coefficient, independent t-test, and one-way analysis of variance (ANOVA). All statistical analyses were done with MedCalc v. 18.9.1 (MedCalc Software, Ostend, Belgium) and SPSS v. 16.0 (SPSS Inc., Chicago, IL, USA).

3. Results

Patients' characteristics

The demographic and clinical characteristics of the patients are summarized in Table 1. The Mean±SD age of the patients was 68.53±11.06 years. Most of the patients were male (72%) and had an ischemic stroke (69%) and hemiparesis (63%). Regarding educational level, most of them had a primary school education (45%).

Descriptive statistics of LAST

Descriptive statistics of the LAST scores showed that the total Mean±SD score of LAST-a for rater 1 in the acute and chronic phases were 10.47±1.06 and 11.98±1.33, respectively.

These Mean±SD for rater 2 were 10.61±1.05 at acute and 12.12±1.17 at chronic phases. Analysis of data for version b of the test showed that the scores in the acute phase were 10.54±0.99 for rater 1 and 10.62±1.13 for rater 2. For the chronic phase, these scores were 11.97±1.15 for rater 1 and 11.90±1.15 for rater 2. As anticipated, the LAST scores significantly increased at the acute phase (all P<0.05) (Table 2).

Inter-rater reliability

To assess inter-rater reliability between rater 1 and rater 2, CCC, weighted Kappa, and ICC were used. The CCC for LAST-a and LAST-b, respectively, were 0.874 and

Table 1. Demographic and clinical characteristics of the stroke patients (N=100).

Variables		Mean±SD/N (%)
Age	years	68.53±11.06
Sex	Male	72 (72.0)
	Female	28 (28.0)
Educational level	Illiterate	28 (28.0)
	Primary	45 (45.0)
	Secondary	20 (20.0)
	University	7 (7.0)
Type of stroke	Ischemic	69 (67.0)
	Hemorrhagic	31 (33.0)
Hemiparesis	No	37 (37.0)
	Yes	63 (63.0)
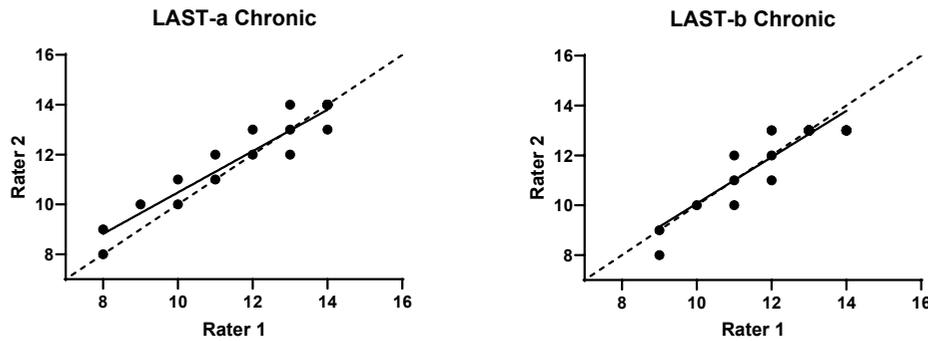
Figure 1. Scatter plot of rater 2 vs. rater 1 on Language Screening Test (LAST)-a and LAST-b scores for both phases in stroke patients

Solid line: the line of best fit; Dashed line: line of 45° angle passing through the origin.

0.865 for the acute phase of stroke, and 0.923 and 0.927 for the chronic phase of stroke (Figure 1). The weighted Kappa for LAST-a and LAST-b, respectively, were 0.750 and 0.740 for the acute phase of stroke, and 0.822 and 0.846 for the chronic phase of the stroke. The ICC for LAST-a and LAST-b, respectively, were 0.875 and 0.867 for the acute phase of stroke, and 0.924 and 0.928 for the chronic phase of the stroke. These high values indicated that the agreement between rater 1 and rater 2 on LAST-a and LAST-b score was very good for both phases.

Agreement between LAST-a and LAST-b forms

To assess the agreement between form a and form b of the LAST (i.e., LAST-a and LAST-b), CCC, weighted Kappa, and ICC were used. The CCC for rater 1 and rater 2, respectively, were 0.860 and 0.715 for the acute phase of stroke, and 0.924 and 0.831 for the chronic phase of the stroke. The weighted Kappa for rater 1 and rater 2, respectively, were 0.736 and 0.533 for the acute phase of stroke, and 0.829 and 0.679 for the chronic phase of stroke (Figure 2). The ICC for rater 1 and rater 2, respectively, were 0.862 and 0.717 for the acute phase of stroke, and 0.925 and 0.833 for the chronic phase of

the stroke. These high values as well as visual inspection of lines of equality indicated that the agreement between LAST-a and LAST-b forms was very good for both raters as well as both phases.

Correlation between LAST and WAB

For rater 1, both LAST-a and LAST-b scores were significantly correlated with WAB scores in chronic phase (r=0.836 and r=0.783, respectively). Similar results were also obtained for rater 2 (LAST-a: r=0.783; LAST-b: r=0.745).
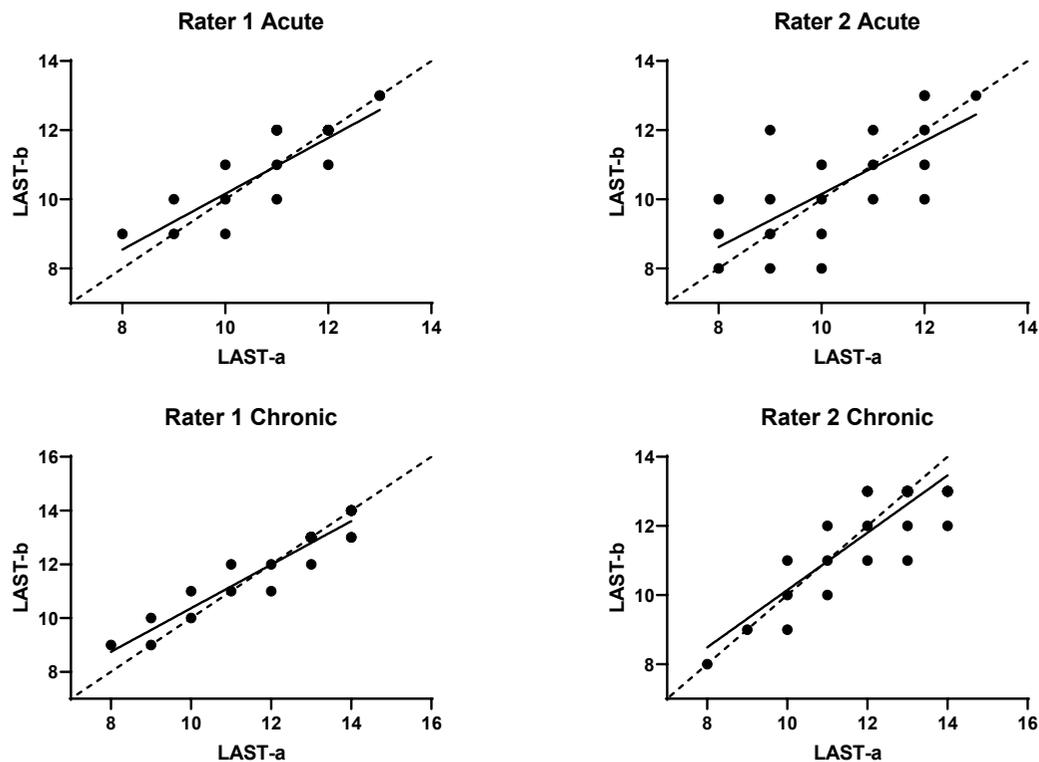
The relationship between the LAST scores and demographic characteristics

Table 3 presents the relationship between LAST-a for rater 1 in acute and chronic phases and their difference (delta LAST-a), and demographic and clinical characteristics. Age showed a strong negative correlation with LAST-a in acute (r=-0.640, P<0.001) and chronic (r=-0.561, P<0.001) phases, but not with delta LAST-a (r=-0.059, P=0.560). Educational level was positively

Table 2. Comparison between acute and chronic phases for LAST-a and LAST-b scores in both raters among stroke patients

| Variables | Phase | | Mean Differences | t (20) | P† | Cohen's d |
	Acute	Chronic				
LAST-a (Rater 1)	10.47 (1.06)	11.98 (1.33)	1.51	13.33	<0.001	1.33
LAST-a (Rater 2)	10.61 (1.05)	12.12 (1.17)	1.51	12.93	<0.001	1.29
LAST-b (Rater 1)	10.54 (0.99)	11.97 (1.15)	1.43	12.55	<0.001	1.25
LAST-b (Rater 2)	10.62 (1.13)	11.90 (1.15)	1.28	10.06	<0.001	1.01

LAST: Language Screening Test. †: Paired t-test.

Mousavi et al. Persian Screening Test for Stroke Patients in Acute Phase . Func Disabil J. 2020; 3:91-100.

95

Figure 2. Scatter plot of Language Screening Test (LAST)-b versus LAST-A scores in Rater 1 and Rater 2 for both phases in stroke patients

Note. Solid line: the line of best fit; Dashed line: line of 45° angle passing through the origin.

correlated with LAST-a in acute (P<0.001) and chronic (P=0.018) phases, but not with delta LAST-a (P=0.971).

4. Discussion

Aphasia affects different aspects of one's life, and evaluation, diagnosis, and rehabilitation are important in patients with stroke [23]. Many diagnostic tools are available in different languages to check the type and degree of aphasia. Many of these diagnostic tests are comprehensive; thus, they are relatively time-consuming and may not be very suitable for stroke patients in the acute phase. In the acute phase, the language characteristics of aphasia are unstable after stroke and can change quickly. Therefore, the performance of comprehensive tests wastes time and money. Moreover, a Speech And Language Pathologist (SLP) may not be available in the first days after a stroke to administer aphasia comprehensive tests and determine the patient's language feature. Thus, a simple, short, and easy screening test that can be performed by different specialists is necessary [6].

LAST is a valid language screening test that was first developed in French and includes two parallel versions, a and b. Each version has an Expression index (naming,

repetition, and automatic speech) and a receptive index (word-picture matching and verbal instructions). Additionally, this test allows for the detection of language deficits within a few minutes [16].

Because there is no valid screening test in Iran for evaluating the language deficits of patients with aphasia after a stroke in the acute phase of the disease, the purpose of the present study was to translate and evaluate the validity and reliability of two parallel Persian versions of LAST, which can be used as a screening test in the acute phase of patients after stroke. As the developers of the test noted, LAST was available only in the French language; thus, its adaptation with other languages is essential [16].

One of the aims of the present study was to examine the reliability of the Persian version of LAST. In this study, we used inter-rater reliability to prevent test-retest bias in the test and the results showed a positive concurrence between the two raters in both acute and chronic phases. Inter-rater reliability between raters was also investigated in previous studies; for example, a French study reported a nearly perfect inter-rater reliability (ICC, 0.998). The authors examined the inter-rater reliability between examiners with different proficiencies who

96

Mousavi et al. Persian Screening Test for Stroke Patients in Acute Phase . Func Disabil J. 2020; 3:91-100.

Table 3. The relationship between LAST-a for rater 1 in acute phase, LAST-a for rater 1 in the Chronic phase and their difference (Delta LAST-a), and demographic and clinical characteristics

Variables	LAST-a (Acute)		LAST-a (Chronic)		Delta LAST-a	
	Mean±SD or r	P	Mean±SD or r	P	Mean±SD or r	P
Age (y)	-0.640	<0.001	-0.561	<0.001	-0.059	0.560
Sex		0.086		0.566		0.356
Male	10.58 (0.98)		12.03 (1.29)		1.44 (1.07)	
Female	10.18 (1.22)		11.86 (1.43)		1.68 (1.28)	
Educational level		<0.001		0.018		0.971
Illiterate	9.93 (1.18)		11.46 (1.43)		1.54 (1.35)	
Primary	10.42 (0.94)		11.96 (1.41)		1.53 (1.12)	
Secondary	11.05 (0.69)		12.45 (0.69)		1.40 (0.88)	
University	11.29 (0.95)		12.86 (0.90)		1.57 (1.13)	
Type of stroke		0.763		0.288		0.126
Ischemic	10.49 (1.01)		11.88 (1.40)		1.39 (1.09)	
Hemorrhagic	10.42 (1.17)		12.18 (1.16)		1.76 (1.20)	
Hemiparesis		0.197		0.562		0.602
No	10.65 (1.14)		12.08 (1.23)		1.43 (1.21)	
Yes	10.37 (1.00)		11.92 (1.38)		1.56 (1.09)	

LAST: Language Screening Test; SD: Standard Deviation

r: Pearson Correlation Coefficient

were two speech and language pathologists, one nurse, and a neurologist and they stated that the inter-rater reliability was maintained between the examiners and there was no significant difference between the results [16]. LAST does not require any specific materials and can also be performed by unskilled people. In the present study, the examiner was better than the one who carried out the previous test (except in the case of the speech and language pathologists). Therefore, it is suggested that similar studies be carried out in the future by different examiners because of the value of screening tests when any specialist can perform them. In the studies by Yang et al. (2018) [21] and Yang et al. (2015), the ICC of 1 was reported [17]. In the study by Koenig-Bruhin et al. (2016), inter-rater reliability between raters was not investigated and reported [20].

Another purpose of this study was to assess the concurrence between the two forms of the LAST (a and b). Flamand-Roze et al. (2011) developed two parallel versions, a and b, to prevent the retest bias and the results of their study showed that the two versions were equivalent [16]. Also, our results were in agreement with their results, and LAST-a concurred well with LAST-b forms. These results are in line with the data of a German study, in which no significant difference was observed between the results of version a and b, and the correlation between the two versions in their patient group showed that these two versions were equivalent [20]. Studies by Yang et al. (2015, 2018) also reported an ICC of 0.991 between the two versions [17, 21]; thus, it can generally be concluded that the two versions can be used interchangeably and both versions can be prescribed for the evaluation of patients.

WAB is one of the most valid, reliable, and common clinical tools for the evaluation of aphasia and is routinely used in stroke patients. It is the only valid and reliable test in Iran; therefore, we used the Persian WAB as the gold standard for the present study. Because some

Mousavi et al. Persian Screening Test for Stroke Patients in Acute Phase . Func Disabil J. 2020; 3:91-100.

97

items in the LAST and the Persian version of the WAB were similar, the researchers expected a correlation between these two tests. The results of correlation analysis also showed a significant positive correlation with WAB scores in the chronic phase. Koenig Bruhin et al. (2016) examined the Last results with the short version of the Token Test and found the correlation between them to be strong and significant indicating good external validity of the scale [20]. The study by Yang et al. (2018) was similar to the present study and used the WAB test and reported that the coefficient of correlation between LAST and WAB ranged from 0.68 to 0.885 (P<0.01) [21].

Regarding the relationship between demographic characteristics and the results of the LAST, there was a significant negative correlation with age, and a positive correlation with educational level, where patients with higher education had better scores in the test. These results were similar to the findings of the study by Monetta et al. (2014). The results of this study showed that people with higher education, obtained a score of 15 out of 15 and those over 80 years of age or less educated, received a score of 14 out of 15 [18]. A study by Flowers et al. (2015) conducted on the English subjects showed no significant difference in mistakes made by people of different ages and genders, but results were more favorable in participants with higher education [19]. Yang et al. (2018) also stated that subjects with higher education showed significantly better results than subjects with lower education [21]. In general, studies have confirmed the significant impact of education on scores. This fact can be a disadvantage of the LAST because the level of education can influence the results. Perhaps by considering the impact of confounding factors, we can eliminate the educational factor.

The shortness of time for the administration of the test can be explained by the simplicity of the tasks. The mean time duration for administration in the acute phase is 128 s and in the chronic phase is about 107 s, which is slightly shorter. This mean time is relatively similar to other previous studies and all of them reported that the time of less than 3 min to administrate the test. For example, a Chinese study reported that the administration time of the test is about 45 to 196 s and the median to administrate is 98 [21]. Administration time in Flamand-Roze et al. study (2011) was 124 s [16] and for its German version, it was about 2 min in bedside testing [20]. This is an obvious advantage of using LAST in the acute phase of the disease. The test instructions limit the patient's response time to the tasks, and the patient only receives a score of 1 when giving the correct answer within 5 s.

If the test was slightly more flexible, the patient might respond correctly after 5 s and get a higher score.

Flamand-Roze et al. (2011) stated that it may be hard to separate language skills from executive functions, but they tried to apply tasks that are more specialized in language base. For instance, verbal fluency that is used in other screening tests is not included in this test because it can make confounds language abilities. Also, they eliminate tasks where other disorders, like dyslexia and being illiterate can affect their results, and stated it as one of the advantages of this test [16]. However, if a screening test included brief aspects of writing and reading, it could develop a better clinical perspective of patients' abilities and could be considered for use in further assessments and treatment (augmentative and alternative) plans.

5. Conclusion

The findings of the present study and comparing it with various studies showed that LAST is a very simple, fast, and valid test and can be used as a reliable tool in stroke patients. Lack of influence of different cultures, languages, and examiners can be considered as the other positive results and advantages of this test.

Ethical Considerations

Compliance with ethical guidelines

The study was approved by the Ethical Committee of Iran University of Medical Sciences (IR.IUMS.REC.1397.283)

Authors' contributions

Conceptualization: Seyyede Zohre Mousavi, Reyhaneh Jafari, Mohammad Moez Shahramnia, Mahsa Pourmohammadi, Nahid Jalilehvand; Methodology: Seyyede ZohreMousavi, Saman Maroufizadeh; Investigation: Seyyede Zohre Mousavi, Reyhaneh Jafari, Mohammad Moez Shahramnia, Mahsa Pourmohammadi; Writing – original draft: Seyyede Zohre Mousavi, Reyhaneh Jafari; Resources, writing – review & editing: All authors.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgments

References

[1] Hallowell B, Chapey R. Introduction to language intervention strategies in adult aphasia. In: Language intervention strategies in aphasia and related neurogenic communication disorders. 5th edition. Philadelphia: Lippincott Williams & Wilkins; 2008. 5:3-19. https://www.researchgate.net/publication/277955261_Introduction_to_language_intervention_strategies_in_adult_aphasia

[2] Berthier ML. Poststroke aphasia. Drugs Aging. 2005; 22(2):163-82. [DOI:10.2165/00002512-200522020-00006] [PMID]

[3] Engelter ST, Gostynski M, Papa S, Frei M, Born C, Ajdacic-Gross V, et al. Epidemiology of aphasia attributable to first ischemic stroke: Incidence, severity, fluency, etiology, and thrombolysis. Stroke. 2006; 37(6):1379-84. [DOI:10.1161/01.STR.0000221815.64093.8c] [PMID]

[4] Laska A, Hellblom A, Murray V, Kahan T, Von Arbin M. Aphasia in acute stroke and relation to outcome. J Intern Med. 2001; 249(5):413-22. [DOI:10.1046/j.1365-2796.2001.00812.x] [PMID]

[5] Kelly H, Brady MC, Enderby P. Speech and language therapy for aphasia following stroke. Cochrane Database Syst Rev. 2010; (5):1-314. [DOI:10.1002/14651858.CD000425.pub2]

[6] El Hachioui H, Visch-Brink EG, de Lau LML, van de Sandt-Koenderman MWME, Nouwens F, Koudstaal PJ, et al. Screening tests for aphasia in patients with stroke: A systematic review. J Neurol. 2017; 264:211-20. [DOI:10.1007/s00415-016-8170-8] [PMID] [PMCID]

[7] Rohde A, Worrall L, Godecke E, O'Halloran R, Farrell A, Massey M. Diagnosis of aphasia in stroke populations: A systematic review of language tests. PloS One. 2018; 13(3):e0194143. [DOI:10.1371/journal.pone.0194143] [PMID] [PMCID]

[8] Kay J, Lesser R, Coltheart M. Psycholinguistic Assessments of Language Processing in Aphasia (PALPA): An introduction. Aphasiology. 1996; 10(2):159-80. [DOI:10.1080/02687039608248403]

[9] Swinburn K, Porter G, Howard D. Comprehensive Aphasia Test (CAT). APA Psyc Tests; 2004. [DOI:10.1037/t13733-000]

[10] Goodglass H, Kaplan E, Barresi B. BDAE-3: Boston Diagnostic Aphasia Examination. 3rd edition, eBook. Philadelphia, PA: Lippincott Williams & Wilkins; 2001. http://freeform.coolermaster.com/boston_diagnostic_aphasia_examination_3rd_edition.pdf

[11] Azuar C, Leger A, Arbizu C, Henry-Amar F, Chomel-Guillaume S, Samson Y. The Aphasia Rapid Test: An NIHSS-like aphasia test. J Neurol. 2013; 260(8):2110-7. [DOI:10.1007/s00415-013-6943-x] [PMID] [PMCID]

[12] Enderby PM, Wood V, Wade DT. Frenchay Aphasia Screening Test (FAST): Test Manual: A Test for Use by Non-specialists to Screen Patients for the Presence of Aphasia. Cornwall: Stass Publications; 2012. https://www.semanticscholar.org/paper/Frenchay-aphasia-screening-test-(FAST)-%3A-test-%3A-a-Enderby-Wood/29acffefd33d53995426e5a2d32a1df4fb701c99

[13] Nakase-Thompson R, Manning E, Sherer M, Yablon SA, Gontkovsky SL, Vickery C. Brief assessment of severe language impairments: Initial validation of the Mississippi aphasia screening test. Brain Injury. 2005; 19(9):685-91. [DOI:10.1080/02699050400025331] [PMID]

[14] Raymer AM, Gonzalez-Rothi LJ. The Oxford Handbook of Aphasia and Language Disorders. Oxford: Oxford University Press; 2018. https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199772391.001.0001/oxfordhb-9780199772391

[15] Aftonomos LB, Steele RD, Appelbaum JS, Harris VM. Relationships between impairment-level assessments and functional-level assessments in aphasia: Findings from LCC treatment programmes. Aphasiology. 2001; 15(10-11):951-64. [DOI:10.1080/02687040143000311]

[16] Flamand-Roze C, Falissard B, Roze E, Maintigneux L, Beziz J, Chacon A, et al. Validation of a new language screening tool for patients with acute stroke: The Language Screening Test (LAST). Stroke. 2011; 42(5):1224-9. [DOI:10.1161/STROKEAHA.110.609503] [PMID]

[17] Yang H, Tian S, Flamand-Roze C, Gao L, Zhang W, Li Y, et al. Validation of a new language screening tool with stroke in Chinese: The Mandarin Version of Language Screening Test (MLAST). Alzheimer's & Dementia. 2015; 11(7):P820-P2. [DOI:10.1016/j.jalz.2015.06.1821]

[18] Monetta L, Bourgeois-Marcotte J, Flamand-Roze C, Denier C. LAST-Q: Adaptation and normative data for the Language Screening Test in a French-Canadian population. https://www.frontiersin.org/10.3389/conf.fpsyg.2014.64.00042/event_abstract

[19] Flowers HL, Flamand-Roze C, Denier C, Roze E, Silver FL, Rochon E, et al. English adaptation, international harmonisation, and normative validation of the Language Screening Test (LAST). Aphasiol. 2015; 29(2):214-36. [DOI:10.1080/02687038.2014.965058]

[20] Koenig-Bruhin M, Vanbellingen T, Schumacher R, Pflugshaupt T, Annoni J-M, Müri RM, et al. Screening for language disorders in stroke: German validation of the language screening test (LAST). Cerebrovasc Dis Extra. 2016; 6(1):27-31. [DOI:10.1159/000445778] [PMID] [PMCID]

[21] Yang H, Tian S, Flamand-Roze C, Gao L, Zhang W, Li Y, et al. Correction: A Chinese version of the Language Screening Test (CLAST) for early-stage stroke patients. PloS One. 2018; 13(8):e0201938. [DOI:10.1371/journal.pone.0201938] [PMID] [PMCID]

[22] Nilipour R, Pourshahbaz A, Ghoreyshi ZS. Reliability and Validity of Bedside Version of Persian WAB (P-WAB-1). Basic Clin Neurosci. 2014; 5(4):253-8. https://www.researchgate.net/publication/286701496_Reliability_and_validity_of_bedside_version_of_Persian_WAB_P-WAB-1

[23] Brady MC, Kelly H, Godwin J, Enderby P, Campbell P. Speech and language therapy for aphasia following stroke. Cochrane Database Syst Rev. 2016(6):CD000425. [DOI:10.1002/14651858.CD000425.pub4] [PMID]

Mousavi et al. Persian Screening Test for Stroke Patients in Acute Phase . Func Disabil J. 2020; 3:91-100.

99

روانسنجی نسخه فارسی آزمون غربالگری زبان برای بیماران با سکته مغزی در دوره حاد

سیده زهره موسوی[۱]، ریحانه جعفری[۲]، سامان معروفی‌زاده[۳]، محمد معز شهرام‌نیا[۴]، مهسا پورمحمدی[۴]، ناهید جلیله‌وند[۲،۴*]

۱. گروه گفتاردرمانی، دانشکده علوم توانبخشی، دانشگاه علوم پزشکی ایران، تهران، ایران.

۲. گروه علوم ارتباطی و اختلالات، دانشگاه ایالت واین، دیترویت، آمریکا.

۳. گروه پرستاری، دانشکده پرستاری مامایی، دانشگاه علوم پزشکی گیلان، رشت، ایران.

۴. گروه گفتاردرمانی، مرکز تحقیقات توانبخشی، دانشگاه علوم پزشکی ایران، تهران، ایران.

چکیده

مقدمه زبان‌پریشی یکی از شایع ترین پیامدهای ناشی از سکته مغزی است؛ بنا بر این آزمون‌های غربالگری برای تشخیص اولیه برای بیماران زبان‌پریش اساسی است. یکی از این آزمون‌ها غربالگری زبان است. هدف از این مطالعه، ترجمه، روانسنجی، و استفاده از این آزمون برای بیماران استروک در زبان فارسی است.

مواد و روش‌ها ابتدا نسخه‌ی اصلی آزمون به زبان فارسی ترجمه شد و سپس توسط دو آزمونگر برای ۱۰۰ بیمار بستری در دوره‌ی حاد استروک به منظور سنجش روایی بین ارزیاب اجرا شد. برای ارزیابی توافق بین دو فرم (الف – ب) آزمون غربالگری زبان از آزمون‌های اکتشافی ضریب همبستگی، کاپا و ضریب همبستگی درون طبقه‌ای استفاده شد. علاوه بر این نسخه‌ی فارسی آزمون غربالگری زبان و آزمون غربالگری دوره مزمن توسط دو آزمونگر مستقل اجرا و نمره‌دهی می‌شد.

یافته‌ها اعتبار بین ارزیاب در امتیازات نسخه‌ی الف و نسخه‌ی ب آزمون غربالگری زبان در هر دو فاز بسیار خوب بود. ضریب همبستگی اکتشافی بین نسخه الف و نسخه ب آزمون غربالگری زبان ۰/۸۷۴ و ۰/۸۶۵ در دوره حاد و ۰/۹۲۳ و ۰/۹۲۷ در دوره مزمن بود. نمره آزمون کاپا برای نسخه‌ی الف و نسخه‌ی ب آزمون غربالگری زبان به ترتیب ۰/۷۵۰ و ۰/۷۴۰ در دوره حاد و ۰/۸۲۲ و ۰/۸۴۶ در دوره‌ی مزمن بود.

نتیجه‌گیری مقایسه یافته‌های مطالعه حاضر و مطالعات قبلی نشان داد که نسخه‌ی فارسی آزمون غربالگری زبان، آزمون معتبر، ساده و سریع است و می‌تواند به عنوان یک آزمون معتبر برای بیماران سکته مغزی استفاده شود. از منافع و نتایج مثبت کاربرد این آزمون می‌توان به عدم وجود اختلاف فرهنگی، تفاوت زبانی، و اثر آزمونگران اشاره کرد.

٭ نویسنده مسئول:
دکتر ناهید جلیله‌وند
نشانی: تهران، دانشگاه علوم پزشکی ایران، مرکز تحقیقات توانبخشی، گروه گفتاردرمانی.
تلفن: ۲۲۲۲۸۰۵۱ (۲۱) ۹۸+
رایانامه: jalilevand.n@iums.ac.ir