

## Assessment of Aphasia in Portugal: Past, present and future

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**Introduction:** Aphasia is a common consequence of stroke, affecting one third of the stroke population (Darrigrand et al., 2011; Kelly, Brady & Enderby, 2010). In Portugal, stroke is the first cause of death (DGS, 2008) and disability (DGS, 2010; Martins, 2006). Due to the increased survival and growth of the elderly population in Portugal, its prevalence has been increasing, causing a tremendous impact not only on the individual but also in their own family and in general society (DGS, 2006).

According to the *International Classification of Functioning, Disability and Health* (ICF) (WHO, 2001) framework, health professionals need to consider, in their intervention with an individual, the consequences of a disease in its different domains, including in their *Body Functions and Structures, Activities and Participation* in daily real life situations. Considering that the choice of goals and intervention approaches to use in therapy with people with aphasia (PWA) is strongly influenced by the initial assessment performed (Kagan & Simmons-Mackie, 2007), assessment of aphasia should include measures that evaluate each component of the ICF framework. Failure to consider these components may result in under or overestimation of how individuals with aphasia are functioning in their daily environments and relationships (Murray & Coppens, 2013).

Overall, there is increasing interest in the usage of aphasia assessments in clinical practice in acute and rehabilitation settings (Rose et al., 2014; Simmons-Mackie, Threats & Kagan, 2005; Verna et al., 2009; Vogel et al., 2009). Many aphasia assessment tools have been developed and described in literature considering the ICF framework (Brown, Dijkers et al. 2004; Long, Hesketh et al. 2007; O'Halloran, Worrall et al. 2004; Simmons-Mackie, 2011; Swinburn & Byng 2006). In Portugal, the existing literature on the topic of assessment of aphasia is scarce. The existing tools used by speech and language therapists (SLTs) in clinical practice with PWA don't enable therapists to assess all the ICF framework components, which may limit a broader intervention that integrates these directives (Matos, 2012). However, in the last decade, there have been many research studies that have been undertaken with the aim of filling the gap of assessment tools in this field in Portugal, particularly projects aimed at translating and adapting different language assessment tools to the Portuguese reality.

**Aim:** The aim of this work is to explore the aphasia assessment tools available in Portugal.

**Methodology:** In order to answer this question, a literature review was conducted to identify all the studies that report the development and/or translation and adaptation of aphasia assessment

tools to European Portuguese. A search was conducted in the following databases: Medline; Pubmed; B-on; Scielo; Databases of Portuguese journals related with health and social sciences; and the National (scientific) open access repository. Papers published in English or European Portuguese were considered. Searches were conducted using the following keywords: “aphasia”; “assessment”; “assessment of aphasia”; “translation and adaptation of assessment tools”; “aphasia assessment in Portugal”; and “aphasia screening test in Portugal”. The same words and equivalent expressions were used in European Portuguese.

**Results:** A total of 20 assessment tools were identified (see Table 1). Ten (10) of these tools are impairment-based namely: BAAL (Castro-Caldas, 1979; Damásio, 1973; Ferro, 1986); PAAT (Lauterbach, Martins & Ferreira, 2004); PAL-PORT (Festas et al. 2008); SADQ Portuguese Version (Rodrigues, Santos & Leal, 2006); PALPA-P (Castro, Caló & Gomes, 2007); Bateria de Evaluación de la Afasia e Transtornos Relacionados (Pestana, Maia, Leite & Silva, 2008); MMSM (Matos, 2012; Matos & Jesus, 2011b); PLINC (Santos, Neto, Loff, Velez & Leal, 2013); BL Portuguese Version (Cruz, Santos, Reis & Faisca, 2014); Token Test (Renzi & Faglioni 1978) – Versão Portuguesa (Jesus & Aguiar 2014). Four (4) assess activity limitations, namely: EFA (Leal et al. 2006); ASHA-FACS Portuguese Version (Leal & Sancho, 2013); FAI – Portuguese Version (Jesus, Marques, Roberto, Rosa, & Patrício, In Press; Martins, 2006; Martins, Ribeiro & Garrett, 2003); BI – Portuguese Version (Jesus, Marques, Roberto, Rosa, & Patrício, In Press). Four (4) assess activity limitations and participation restrictions: POPS – Portuguese Version (Matos, 2012; Matos & Jesus, 2011c; Matos, Jesus, Cruice, & Gomes 2010b); TAPP (Matos, 2012; Matos & Jesus, 2011d; Matos, Jesus, Cruice, & Gomes 2010a); COAST – Portuguese Version (Jesus, Silva & Patrício, In Press); CDP – Portuguese Version (Matos, 2012; Matos & Jesus, 2011a; Matos, Jesus, Cruice, & Gomes 2010b). The CDP also assesses contextual factors. One instrument assesses barriers and facilitators (Matos & Jesus, 2013). Finally, one tool (beyond the ICF), the SAQOL 39 – Portuguese Version (Rodrigues & Leal, 2013), assesses quality of life.

**Discussion & Conclusions:** According to Leal et al. (2014), the most used assessment tools by Portuguese SLTs (N= 55) to evaluate aphasia are the BAAL, the AAT Portuguese version, the EFA, and the PALPA-P. SLTs also use informal assessment tools developed or translated by themselves. However, based on the current review, ten (10) of the available aphasia assessment tools in Portugal were translated and adapted and/or created after 2008, which may explain these results (data presented by Leal et al. (2014) was collected in 2007). According to the same study (Leal et al. 2014), Portuguese SLTs’ practice is characterised by the Rehabilitation Model (Worrall & Hickson, 2003) and focuses on the activity level, and future reviews of practice in coming years are likely to reflect assessments usage that supports this. The results in our study show a change in the focus of intervention of Portuguese SLTs with people with aphasia, considering the consequences of aphasia in a broader perspective, as suggested by the ICF. The most recently developed assessment tools are centred in activity limitations, participation restrictions, contextual factors and quality of life. Many of these assessment tools’ psychometric properties are still being studied.

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ICF Domain	Assessment Tool - Portuguese Version	Portuguese Authors	Original Authors
Impairment	Bateria de Avaliação de Afásias de Lisboa (BAAL)	(Castro Caldas,1979; Damásio,1973; Ferro, 1986)	Multilingual Aphasia Examination (MAE) (Benton, 1969)
Impairment	Portuguese Aachen Aphasia Test (PAAT)	(Lauterbach, Martins & Ferreira, 2004)	Aachen Aphasia Test (AAT) (Huber, Poeck et al. 1983)
Impairment	Fine – Grained Psycholinguistic Assessment of Aphasia and other Language Impairments (PAL – PORT)	(Festas, et al. 2006)	Psycholinguistic Assessments of Language (PAL) (Caplan, 1992; Caplan & Bub, 1990)
Activity Limitations	Escala de Funcionalidade para Afásicos (EFA)	(Leal et al. 2006)	(Niemi et al, 1988)
Impairment	Stroke Aphasic Depression Questionnaire – Versão Portuguesa (SADQ)	(Rodrigues, Santos & Leal, 2006)	(Sutcliffe & Lincoln, 1998)
Impairment	Provas de Avaliação da Linguagem e da Afasia em Português (PALPA-P)	(Castro, Caló & Gomes, 2007)	Psycholinguistic Assessments of Language Processing in Aphasia (PALPA) (Kay, Lesser & Coltheart, 1992)
Impairment	Bateria de Evaluación de la Afasia y de Transtornos Relacionados	(Pestana, Maia, Leite & Silva, 2008)	Spanish Version (Goodglass, 2005) Boston Diagnostic Aphasia Examination (BDAE) (Goodglass & Kaplan, 1983)
Activity Limitations and Participation Restrictions Contextual Factors	Communication Disability Profile (CDP) – Versão Portuguesa	(Matos, 2012; Matos & Jesus, 2011a; Matos, Jesus, Cruice, & Gomes 2010b) – under validation	Communication Disability Profile (CDP) (Swinburn & Byng 2006)
Activity Limitations and Participation Restrictions	Participation Objective Participation Subjective (POPS) – Versão Portuguesa	(Matos, 2012; Matos & Jesus, 2011c; Matos, Jesus, Cruice, & Gomes 2010b) – under validation	Participation Objective Participation Subjective (POPS) (Brown, Dijkers et al. 2004; Brown 2006)
Impairment	Mini - Mental State Modificado (MMSM)	(Matos, 2012; Matos & Jesus, 2011b) – under validation	Language Modified Mini Mental State Examination (LMMS) (Pashek 2008)
Contextual Factors	Barriers Facilitators Checklist (BFC)	(Matos, 2102; Matos & Jesus 2013) – under validation	Original
Activity Limitations and Participation Restrictions	The Activities Participation Profile (TAPP)	(Matos, 2012; Matos & Jesus, 2011d; Matos, Jesus, Cruice, & Gomes 2010a) – under validation	Original
Quality of Life	Portuguese version of the Stroke and Aphasia Quality of Life Scale-39 (SAQOL 39)	(Rodrigues, & Leal, 2013)	Stroke and Aphasia Quality of Life Scale-39 (SAQOL 39) (Hilari, 2003)
Impairment	PLINC – Provas de Avaliação de Linguagem Complexa	(Santos, Neto, Loff, Velez, & Leal, 2013)	Original
Activity Limitations	Portuguese validation of the Functional Assessment of Communication Skills for Adults (ASHA - FACS)	(Leal & Sancho, 2013)	Functional Assessment of Communication Skills for Adults (ASHA - FACS) (Frattali et al. 1995)
Impairment	Bedside de Language (BL) – Portuguese Version	(Cruz, Santos, Reis & Faisca, 2014)	Bedside de Language (BL) (Sabe et al. 2008)
Impairment	Token Test (Renzi & Faglioni 1978) – Versão Portuguesa	(Jesus & Aguiar, 2014)	Token Test (Renzi & Faglioni, 1978)
Activity Limitations	BI – Portuguese Version	(Jesus, Marques, Roberto, Rosa, & Patrício, In Press) – under validation	Mahoney & Barthel (1965)
Activity Limitations	Frenchay Activities Index (FAI) – Versão Portuguesa	(Jesus, Marques, Roberto, Rosa, & Patrício, In Press; Martins, 2006; Martins, Ribeiro & Garrett, 2003) – under validation	(Holbrook & Skilbeck 1983)
Activity Limitations and Participation Restrictions	Communication Outcome after Stroke scale (COAST) – Versão Portuguesa	(Jesus, Silva, & Patrício, In Press)	Communication Outcome after Stroke scale (COAST) (Long, Hesketh, Paszek, Booth & Bowen, 2008)

Table 1 Assessment tools (listed in chronological order of development in Portugal).