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Language and Psychosocial Outcomes for Stroke Survivors with Aphasia Following an Intensive Comprehensive Aphasia Program

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Background and Significance

- The most common cause of aphasia is **stroke**; about 25-40% of stroke survivors acquire aphasia (National Aphasia Association, 2018).
- **Aphasia** is an impairment of language including reading, writing, speaking, and listening (Stroke Center, 2018).
- Aphasia is associated with significant life-altering **psychosocial** consequences including poor vocational outcomes, changes in relationships, and social isolation (Worrall et al., 2011).
- The prevalence of depression after stroke is approximately 31% in persons with aphasia (Worrall et al., 2016).
- Traditional aphasia therapy models lack the therapeutic intensity and holistic intervention approach that **Intensive Comprehensive Aphasia Programs (ICAP)** provide (Rose, Worrall, and Cherney, 2013).

Intensive Comprehensive Aphasia Programs (ICAPS)

- ICAPs integrate individual and group therapy, current technologies, and both patient and family caregiver wellness and education (Babbitt, Worrall, and Cherney, 2015).
- Holistic treatment targets impairment, activity and participation domains of the WHO-IFC model relative to language and functional communication (Babbitt et al., 2015).
- Minimum of 3 hours of therapy a day for 2 weeks (Rose et al., 2013).
- Must include individual and group treatment (Rose et al., 2013).
- Include a cohort of participants that start and stop at the same time (Rose et al., 2013).

University of Montana ICAP

- Pre- and post-treatment assessment of language and psychosocial well-being.
- Treatment Intensity varies across sessions (see table).
- Treatment Delivery: individualized, evidence-based treatment, conversation groups, weekly large group, weekly community outings.

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Purpose

To examine language impairment and psychosocial outcomes of persons with aphasia following participation in an ICAP.

Research Question

Are there significant positive changes in pre/post scores on measures of language impairment and psychosocial well-being following participation in the UM ICAP?

Approach

Participants: 37 persons with aphasia (PWA)

Gender	Age	Time post-onset	Years of Education
13 female 24 male	19-80 years old	2-280 months post-onset of stroke	Highschool graduate - Doctoral Degree

ICAP Session	Hours Per Day	Days Per Week	# of Weeks	# Hours of Treatment	Treatment Intensity Ratio
Fall 2014	3	3	4	36	0.225
Fall 2015	3	3	5	45	0.23
Summer 2015	4	4	4	64	0.40
Summer 2016	4	4	4	64	0.40
Summer 2017A	4.5	4	4	72	0.45
Summer 2017B	4.5	4	3	54	0.45

ICAP Language Outcome Measures

1. *Western Aphasia Battery-Revised, part 1 (WAB-R; Kertesz, 2006).*
2. *Boston Naming Test, second edition, standard form (BNT; Kaplan, Goodglass, & Weintraub, 2001).*

ICAP Psychosocial Outcome Measures

1. *Geriatric Depression Scale (GDS; Sheikh & Yesavage, 1986).*
2. *Assessment of Living with Aphasia, second edition (ALA; Kagan et al., 2010).*

Results and Conclusions

Outcome Measure	N	Mean Pre-ICAP	SD Pre-ICAP	Mean Post-ICAP	SD Post-ICAP	Paired Sample t-test
ALA	37	98.3	23.8	12.4	21.4	t=1.01; p=.324
GDS	27	4.19	2.7	2.67	2.1	t=3.04; p=.005
WAB-R	32	47.52	28.13	52.58	26.94	t=-4.388; p=.000
BNT	25	20.72	20.07	23.64	21.13	t=-3.225; p=.004

Language Impairment Outcomes

- Significant improvement of language (WAB-R)
- Significant improvement of word retrieval (BNT)

Psychosocial Well-Being Outcomes

- Significant reduction of depression
- No significant change in overall aphasia-related quality of life

Implications

- Retrospective analysis of outcome measures across UM ICAP sessions suggests that the therapeutic intensity and holistic intervention approach offered by the UM ICAPs are beneficial to improving quality of life and communicative rehabilitation for stroke survivors with aphasia.
- The ALA may not be sensitive enough to detect changes in aphasia-related quality of life given the short period of time between assessments; consider re-administering ALA one month and six months post ICAP to look at long term impact of ICAP on quality of life.
- Future service delivery models should consider the ICAP's multifaceted approach as well as ways to better support PWA autonomy and sense of respect and dignity throughout therapy.