

Initiation of communication by persons with severe aphasia during group treatment

The viability of group treatment in inpatient rehabilitation facilities (IRFs) is at a crossroads. While the Centers for Medicare and Medicaid Services (CMS) has not yet established standards for group therapy in IRFs, they have stated that the standard for care in these settings is individualized therapy (Department of Health and Human Services, Centers for Medicare & Medicaid Services, 2009). CMS limitations of the size and frequency of group therapy in other settings suggests that CMS believes group treatment is of a lesser quality when compared with individual treatment. This is a critical time for research demonstrating the unique benefits of SLP group treatment in acute rehabilitation.

The most frequently reported group therapy in speech-language pathology literature is aphasia group therapy. Research concerning group treatment for persons with aphasia (PWA) typically examines persons in the chronic stage vs. acute stage of aphasia. Working with people with chronic aphasia, Elman and Bernstein-Ellis (1999) demonstrated that the group paradigm promotes pragmatic skills (e.g., initiation of communication) and increases the variety of communication functions and speech acts. They found that the intangibles of the group paradigm (providing a wider array of communication partners, more natural tasks, peer modeling, and support) contributed to the improved carryover and generalization of treatment gains. Furthermore, groups provided a supportive environment and aided in adjustment to life with aphasia. More recently, Elman (2007) identified the unique ability of group treatment to connect people with aphasia to one another, when compared with individual treatment alone.

The ability of group treatment to provide a social context for acute aphasia recovery is particularly significant at this time. While historical models of aphasia assessment and treatment have focused on linguistic competence, speech-language pathologists have more recently begun to devote attention to pragmatic competence and overall functionality of communication (Wilcox 1983, Lyon 1992). With this change, a greater emphasis is placed on improving patients' social communication skills with the ultimate goal of increasing life participation. Clinicians practicing under these newer models strive to facilitate generalization of communicative competence to natural, community-based settings. It is possible that group treatment affords greater opportunity for this type of generalization (Kearns & Elman, 2001).

One of the primary benefits of group treatment sessions is the opportunity for peer-to-peer communication (Elman & Bernstein-Ellis, 1999). Wilcox (1983) identifies initiating and sustaining an interaction as one of three pragmatic skills required for socially appropriate communication. Initiating a communicative interaction may naturally be de-prioritized during individual treatment because these sessions are clinician-driven and minimize the opportunity for patients' initiation. Group treatment may afford greater opportunity for patients to initiate communication when compared with individual sessions.

The communication of persons with acute, severe aphasia during group treatment is not well described in the literature. While patients with acute, severe aphasia are able to initiate expressive communication, by definition, they do so infrequently. The group context may provide a more supportive environment for initiating communication, when compared with individual treatment sessions. This study was designed to address two questions: 1. Do subjects

with acute aphasia initiate more frequent communication during group treatment than individual treatment? and 2. Do other measures of communication skills (yes/no question accuracy, number of different real words, percent accurate automatic speech) differ across treatment types.

METHODOLOGY

Subjects

Subjects were 10 inpatients in an acute rehabilitation program (Table 1). All subjects had onset of a left-hemisphere stroke within the previous three months, as confirmed by computerized tomography (CT) scan, magnetic resonance imaging (MRI) or physician examination. All subjects were diagnosed with severe non-fluent or global aphasia (Western Aphasia Battery fluency subtest score = 0, 2, or 4). All subjects were native English speakers and were receiving individual speech-language pathology treatment in addition to participation in group therapy. No subject had a history of mental illness or significantly decreased visual and/or hearing acuity.

Procedures

The Augmentative Communication Group (ACG) is an acute rehabilitation group designed for persons with severe aphasia. It ranges in size from 2-6 patients. Patients enrolled in ACG attend 60-minute group sessions six days a week. ACG is structured to include motor-speech based tasks that focus on motor learning, speech automatics (i.e. counting, days of the week), and a structured language activity. The language activity incorporates established cueing hierarchies for auditory comprehension and verbal expression with an emphasis on multi-modal communication, and principles of Melodic Intonation Therapy (Helm-Estabrooks & Albert, 1991).

Subjects were observed during one ACG session and one individual session, both conducted on the same day. All sessions were conducted by a single certified speech-language pathologist (SLP) blinded to the objectives and measures of the study. The order of sessions was counterbalanced across subjects, with 5 subjects receiving group treatment first and 5 subjects individual treatment first. To ensure that subjects had adjusted to the group treatment process, observations occurred between the fifth and tenth ACG-treatment days. All observations were performed live by the first author. For each observation the following data was recorded:

1. The number of patient initiated communication behaviors (e.g. a self-generated expressive act not in direct response to communication from a conversational partner).
2. Accuracy of yes/no responses
3. Accuracy of speech automatics (counting 1-10)
4. Number of different, real words produced during non-automatic speech tasks

Inter-rater reliability

For three randomly selected patients, both individual and group sessions were simultaneously observed by a second certified SLP. Data was recorded throughout the 60-minute speech-language pathology treatment sessions by both SLPs without awareness of each other's recordings. Inter-rater reliability was very good ($r = .95$).

RESULTS

Subjects initiated communication significantly more often during group than individual treatment ($T(9) = 2.33$, $p = .045$, Mean (SE):Group 12.7 (2.56), Individual 8.5 (2.62)) (Figure 1). Nine of ten subjects followed this pattern (Binomial $p = .01$). There was a trend toward subjects producing fewer different real words during group treatment ($T(9) = 2.00$, $p = .08$, Group 32.0 (8.3%), Individual 63.4% (22.3%)) (Figure 2). Accuracy of yes/no responses ($T(9) = .07$, $p = .95$, Group 82.6% (10.6%), Individual 83.3% (4.6%)) and speech automatics ($T(9) = .74$, $p = .48$, Group 51.1% (9.9%), Individual 54.7% (11.4%)) did not differ across treatment type (Figures 3 and 4).

DISCUSSION

Researchers have identified the need for additional research in early post-stroke recovery (Peach, 2001). This study was designed to compare the number of initiations made by patients with severe acute post-stroke aphasia during group and individual speech therapy sessions. Findings suggest that PWA more readily initiate communication during group treatment when compared to individual treatment. Furthermore, yes/no question accuracy, number of different real words and percent of accurate automatic speech did not significantly vary across the two treatment types. The potential of group therapy to improve the well being of PWA and to facilitate more frequent social communication will be discussed.

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Table 1. Subject Description

<i>Age (years)</i>	Mean (SD)	58.7 (13.3)
	Range	39-87
<i>Education (years)</i>	Mean (SD)	15.6 (2.5)
	Range	13-19
Gender	Female:Male	5:5
<i>Time post-onset (days)</i>	Mean (SD)	28.9 (24.6)
	Range	11-75
<i>WAB Fluency</i>	Mean (SD)	1 (1.3)
	Range	0-4
<i>BDAE Complex Ideational Material - Short Form</i>	Mean (SD)	1.5 (1.6)
	Range	0-4

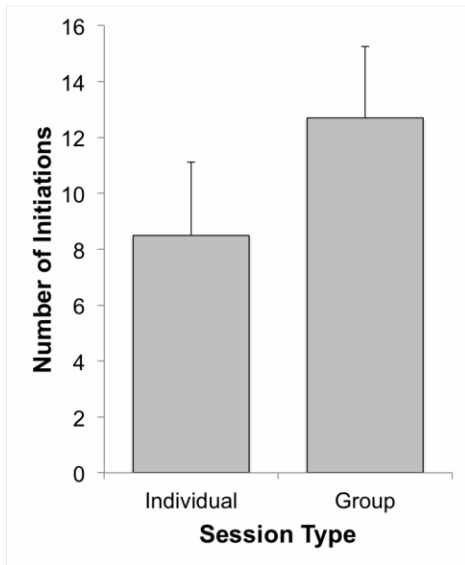


Figure 1. Number of initiations by patients during individual and group sessions.

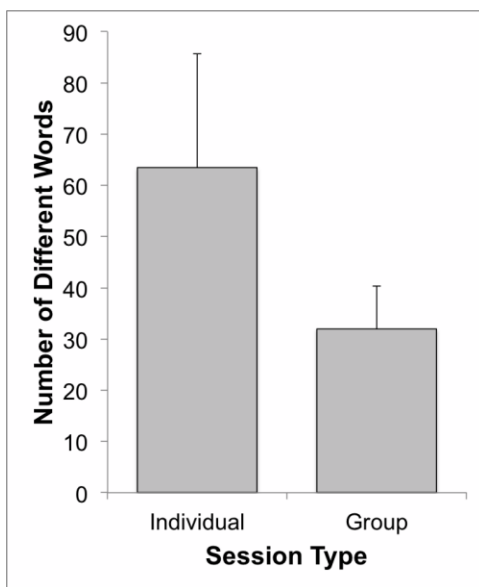


Figure 2. Number of different, real words produced by subjects during individual and group sessions.

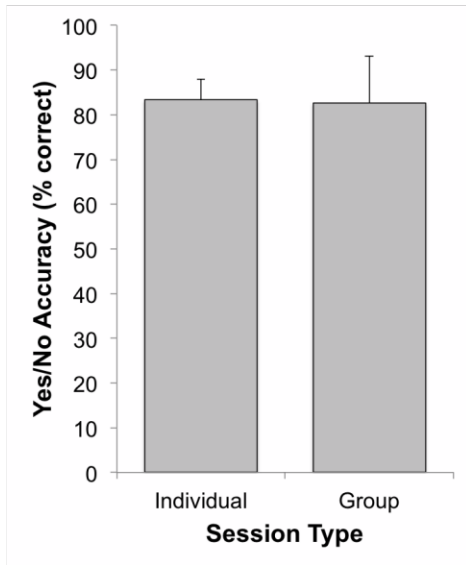


Figure 3. Number of accurate yes/no responses during individual and group sessions.

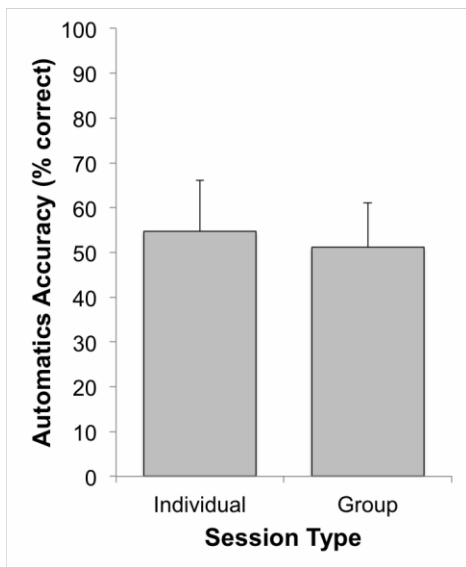


Figure 4. Percent of accurate automatic speech (counting 1-10) during individual and group sessions.