COMMUNICATION BETWEEN SEVERELY APHASIC ADULTS AND PARTNERS

An early intervention

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Severely aphasic individuals often require facilitation by a skilled partner to communicate and often need to use non-verbal communication. Therefore, rehabilitation of functional communication requires skills training for both the severely aphasic individual and their communication partners. A comprehensive but brief intervention, delivered in the early rehabilitation phase, has been designed to improve communication between severely aphasic adults and their communication partners. The components of the intervention program are described and preliminary observations are discussed.

Key words: aphasia treatment, family communication, severe aphasia

People with severe aphasia have limited comprehension of spoken and written language, and little or no ability to express their thoughts verbally or in writing. Severe aphasia affects a significant number of people. Based on aphasia incidence figures and the number of hospitalisations for stroke in Australia, approximately 5,000 Australians become severely aphasic each year (National Centre for Monitoring Cardiovascular Disease, 2001; Scarpa, Colombo, Sorgato, & De Renzi, 1987).

Severe aphasia has profound consequences. Individuals with severe aphasia usually experience grave psychosocial changes and strain, including significant alterations in professional capabilities, loss or reduction of social contact, and restriction or abandonment of recreational activities. They may exhibit depression, resignation, helplessness and despair, as well as anger and aggression (Herrmann & Wallesch, 1989). The families of individuals with severe aphasia are also affected. Family members often find communicating difficult and miss conversation. They take on new tasks and responsibilities, experience social restrictions, and may suffer exhaustion, loneliness and depression (Michallet, Tetreault, & Le Dorze, 2003).

People with severe aphasia usually make some improvements with conventional language therapy but continue to have significant and lasting deficits and therefore remain severely handicapped in regards to their communicative abilities (Peach, 2001). In response to this, therapists working with this client group have broadened their treatment focus, providing intervention that targets communication in daily activities and with regular partners. This functional therapy aims to teach skills and compensatory strategies that enable people with aphasia to communicate as effectively as possible with the limited language they have. It targets optimal communication rather than linguistic accuracy. Use of any effective communication modality, including non-verbal communication, is encouraged.

Conversation is collaborative. In conversations that involve people with aphasia, both the aphasic and the non-aphasic participant need to work together to help reduce the impact of the aphasia on the conversation. Close family members are key communication partners and are typically responsible for supporting the person with aphasia in their day-to-day communication. Therefore, functional therapy often involves working with family members. Strategies which the partner may use to assist the aphasic participant to express their ideas include prompting them to draw, write or gesture; presenting drawn or written choices so they can indicate their preference; asking yes/no questions progressing from the general to the specific; and supporting the use of props. Strategies which the partner may use to assist comprehension include speaking slowly, using simple short utterances, repeating and rephrasing, inserting pauses, using gesture, using facial expression, drawing, writing key words, and using props. Frequent checks to verify that both participants are interpreting intended messages adequately are also important.

Facilitating conversation with someone with severe aphasia requires considerable skill and expertise. Exposure to people with aphasia and motivation to communicate are not sufficient; explicit training is required (Kagan & Cailey, 1993). Two previous studies have demonstrated that intervention can assist regular conversation partners to converse with people with severe aphasia. Hopper, Holland, and Rewega (2002) evaluated an intervention which involved a clinician coaching couples in the use of selected verbal and non-verbal strategies to improve the quality of their conversation. A multiple-baseline across subject design involving two individuals with chronic severe aphasia and their partners was used. The couples conveyed more information in a video re-telling task following intervention. Cunningham and Ward (2003) evaluated an intervention which included information, identification of successful and unsuccessful conversation patterns, role-playing and practice. Four case studies, all involving people with chronic severe aphasia and their partners, revealed positive but not statistically significant changes, including increases in non-verbal communication and in successful repair sequences.

If the aphasic participant can convey very little in words, their contribution to successful interaction will necessarily involve alternative communication strategies. Strategies which can be effective in compensating for impaired language include pointing, gesturing, drawing, and the use of referents or props such as personalised communication books, calendars and photographs. Intervention programs have targeted communicative gesture and drawing (Davis, 1986; Lyon, 1995). Intervention is often necessary because severe aphasia is associated with impaired recognition and production of both gesture and drawing (Feyereisen, 1991; Lyon, 1995) and because many people with severe aphasia do not use such compensatory strategies spontaneously.

None of the studies described above have addressed the provision of communication skills training to severely
aphasic adults and their carers during the early rehabilitation phase. The early recovery period is, however, a time of high need. Severely aphasic clients and their families are struggling to communicate and keen to find ways of doing so. Early therapy targeting communication can provide them with skills and strategies at the outset, thus kick-starting the process of functional communication.

An intervention provided during the early recovery period needs to be brief. Length of stay within a particular therapy setting is often short. Furthermore, client time is often limited: clients are frequently involved in a variety of therapies, including conventional language therapy. Additionally, most therapists are under considerable time pressure, and are more likely to implement a brief but effective intervention than a lengthy one.

The aim of this study was to investigate whether a brief intervention during the early rehabilitation period improved communication between severely aphasic clients and their partners.

Method

Participants

Data collection and preliminary analyses for two single-subject studies have been completed, each involving a person with severe aphasia and their spouse.

The inclusion criteria were: severe aphasia, with a Boston Diagnostic Aphasia Examination (BDAE) Aphasia Severity Rating of 0 or 1 (Goodglass, Kaplan, & Barresi, 2001); current participation in inpatient post-stroke rehabilitation; access to a regular communication partner; both aphasic and non-aphasic partners able to communicate with each other and participate in therapy in English; and no known deteriorating neurogenic conditions.

**Dyad U.** Mr U, a retired hardware salesman, was 60 years old. He suffered a left ischaemic stroke complicated by haemorrhage five weeks prior to commencing the study. His BDAE Aphasia Severity Rating was 1. Assessment with the Western Aphasia Battery (WAB) (Kertesz, 1982) yielded an Aphasia Quotient of 20.4 and was consistent with a diagnosis of Broca’s aphasia. He had a right hemiparesis and had been right-hand dominant prior to the stroke. He had left apraxia. His wife was 57 years old. Both Mr and Mrs U were monolingual, native speakers of English.

**Dyad Q.** Mr Q, a retired market gardener, was 73 years old. He suffered a left ischaemic stroke two weeks prior to commencing the study. His BDAE Aphasia Severity Rating was 0/1. Assessment with the WAB yielded an Aphasia Quotient of 5.0 and was consistent with a diagnosis of global aphasia. He did not have a hemiparesis and was right-hand dominant. He also had motor apraxia, ideational apraxia and severe motoric perseveration. His wife was 71 years old. Both Mr and Mrs Q were monolingual, native speakers of English.

Consent was sought using simple explanation supported by modified information and consent forms. The forms had been adapted to assist comprehension and support discussion, as suggested by Braunack-Mayer and Hersh (2001). The modifications included simplified text, key words and phrases in block letters and the use of pictographs.

Study design and procedure

The study used a single-subject multiple-baseline across behaviours design. Normal language therapy continued throughout the assessment and intervention period, and intervention took place during the first six months post-onset when some spontaneous recovery is expected. The design and outcome measures were developed to identify specific changes resulting from the intervention against the background of probable language improvement.

Within a week of transfer from an acute hospital to an inpatient rehabilitation centre, the WAB was completed and a standard communication book was provided to the client. The dyad then began a week of baseline assessment, comprising three assessment sessions. Each assessment session included the video re-telling task described below. In addition, during each assessment session the participant with aphasia completed a simple five-point scale, with the points illustrated by a facial expression, rating how well he and his partner were communicating and the partner completed the Communication Effectiveness Index (CFEI) (Lomas et al., 1989), which is a measure of functional communication for adults with aphasia and is completed by their communication partner. Baseline assessment also included a single assessment, by means of the video re-telling task, of the aphasic participant communicating with a stranger.

Baseline and outcome assessments

**Video recording.** The main source for the data was a videotaped session of a video re-telling task by the aphasic participant to his partner. First the aphasic participant watched a video. Then his partner joined him. He was instructed to communicate as much as he could about what he had seen to his partner and his partner was instructed that she could assist him. No time limit was placed on the conversation. A paper and pencil and the aphasic participant’s communication book were placed on the table. There were no instructions to use them. This task is based on that used by Hopper et al. (2002).

**Stimuli.** The video watched by the aphasic participant was a short (4-minute) video. Two videos were used, with random selection of the one shown for each measurement. The videos were edited so that each had the same number of episodes and the same number of main concepts. Main concepts (Nicholas & Brookshire, 1995) were determined for each video by analysing the video re-telling of three normal speakers. The main concepts identified by at least two of the three speakers were used to create a master main concept list for each video. Both videos showed shopping excursions. Videotape 1 showed a man and girl withdrawing money from a bank, having a prescription filled, buying eating ice creams, posting a letter, getting into their car and returning home. Videotape 2 showed a man answering the phone, taking a tablet, walking with another man into a shopping centre, withdrawing money from an ATM, buying and drinking coffee, and returning to his car.

Analysis of video recordings. The interaction between the aphasic individual and partner is currently being transcribed and analysed. The measures of interest were communicative success, as revealed in the number of main concepts successfully communicated; the aphasic participant’s use of taught non-verbal strategies, including gesturing, drawing, pointing; the partner’s use of taught strategies, including prompting and effective questioning; and the use of repair strategies by both individuals.

Intervention

The intervention phase commenced after the baseline measures had been completed.

**Intervention 1.** The first component of the intervention was a 90-minute group-based carer education and training session, for the non-aphasic partner. The session was attended by families and friends of severely aphasic patients. The session included information about aphasia and about
communicating with the person with aphasia, with a particular focus on effective yes/no questioning. The value of establishing the general topic and nature of the message and then becoming more specific was emphasised. Role-playing was used and analysed in order to develop and reinforce the use of effective questioning. A protocol for questioning, consisting of an outline of useful questions and question topics, was distributed and incorporated into role-play practice. The measures described above were repeated after the group session.

**Intervention 2.** The second component of the intervention was designed to assist the aphasic adult to respond more reliably to his partner’s yes/no questions. He received therapy targeting comprehension of the question topics in the questioning protocol and therapy targeting a reliable “yes/no” response to questions relating to these topics. Errors were explained and corrected. This therapy was offered daily, for approximately 20 minutes each day for 10 sessions, during the regular daily speech therapy session. The assessment measures were repeated after this intervention.

**Intervention 3.** The third component of the intervention consisted of three 1-hour sessions conducted with the aphasic participant and his partner. These sessions focused on teaching non-verbal communication strategies and better dyadic communication strategies. The first session addressed pointing, the second gesturing, and the third drawing. The intervention used a barrier task in which the aphasic participant looked at a photograph of an object or simple activity that only he could see. He and his partner then had to work together to enable him to communicate what he had seen. The investigator acted as partner for the first five photographs in order to to model the task. Then the aphasic participant and his spouse worked with each other, first with photographs and then with a short video. During interaction, the investigator provided cues, suggestions, feedback, and models in order to reinforce effective communication strategies and modify less effective ones. The partner was encouraged to prompt the aphasic participant to use the target non-verbal modality, to use appropriate language, to supplement this with visual cues such as gesture and to use yes/no questions effectively.

The assessment measures were repeated after this intervention. The assessment of communication with a stranger was also repeated. The measures were repeated for the final time one month after intervention ceased.

**Preliminary observations**

This section provides a discussion of some of the preliminary findings based on clinical observations.

**Dyad U.** Preliminary analysis indicated that Mr and Mrs U exhibited a range of functional communication skills before intervention. Mr U used gesture, drew at times and used his communication book without prompting. His wife actively helped him to communicate, particularly through yes/no questions. In the baseline measures, they co-constructed all of the episodes in the video and some of the main concepts, predominantly through gesture and yes/no questions although some of the information was incorrect.

Following intervention, Mr and Mrs U co-constructed more of the main concepts from the videos and very little was interpreted incorrectly by his communication partner. There seemed to be two main reasons for this improvement. One was Mr U’s increased use of drawing. In the final assessment, he used drawing to represent each episode and included more detail. The other significant change was in the way his wife interacted with him. Before intervention, she used multiple yes/no questions in rapid succession. Mr U often did not answer because his attention was focused on his attempts to express himself rather than on her questioning. Sometimes he wanted to answer her question but she did not allow him sufficient time. He often answered incorrectly because of his impaired auditory comprehension. In the dyad sessions, these issues were highlighted and alternative strategies were suggested: making sure he was listening; giving him time to answer; keeping language simple; and using pointing, gesture and written key words to support spoken language. His behaviour was also addressed. He was encouraged to stop what he was trying to do, listen to his wife and answer her. By the third dyad intervention session they were both using these strategies consistently. This changed behaviour contributed to the effectiveness and accuracy of their interchange during the post-intervention measures.

**Dyad Q.** During the baseline measures, Mr and Mrs Q did not convey any correct information from the video samples. Mr Q was unable to communicate verbally and made almost no use of non-verbal modalities other than facial expression. Mrs Q asked yes-no questions, which he could not answer, and used words and sentences that he could not understand.

The dyad interventions altered Mr Q’s non-verbal communication slightly in that he started to point to convey meaning. However, he remained unable to use more elaborate gesture. He was able to draw photographed objects but could not draw without a photograph. This limited his ability to draw to communicate.

The dyad sessions appeared to improve Mrs Q’s ability to communicate with him. She learnt to simplify her language and to use pointing and gesture to support spoken language in order to aid his comprehension abilities. She also became aware of Mr Q’s severe expressive limitations and began to use yes/no questions rather than wh-questions so he could convey his intended message. This improvement in Mrs Q’s communication strategies was evident during the post-intervention videotaped interactions. However, it did not result in the co-construction of more correct main concepts. Throughout the assessments, Mrs Q believed that the video showed Mr Q having therapy with the investigator. Mr Q seemed unable to correct her mistaken notion of the video’s content. Consequently, her yes/no questions did not garner relevant information.

**Discussion**

The aim of this study was to investigate whether a brief intervention, delivered during the early rehabilitation period, could improve communication between severely aphasic clients and their partners. Two couples have participated in the study to date and analysis of the data is ongoing. Further analysis will explore the extent to which aphasic participants and their partners used taught strategies, and whether use of these strategies resulted in greater communicative success.

Additional case studies are planned and will enable further exploration of the relationship between pattern of impairment and response to this intervention. As variation in patterns of impairment is characteristic of aphasia, it would be clinically useful to know whether particular patterns of impairment make this intervention or specific components of this intervention more or less likely to be beneficial. Additional data and detailed analysis of the videotaped interactions will also enable examination of the effectiveness of the three components of the intervention. A subjective impression, which needs further examination, is that neither of these dyads benefited significantly from the yes/no question training provided to the person with aphasia.

These preliminary observations offer promising signs that a brief, early intervention can improve communication between people with severe aphasia and their families. Provision of
these communication skills and strategies at this early stage may relieve some of the distress and frustration and reduce the handicap associated with this devastating condition.

References


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