Speech and Language Services for Severely Aphasic Patients: Some Professional Considerations

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The aphasia literature contains much information that is helpful in making decisions relative to the provision of speech and language services to severely aphasic persons. Although investigators differ slightly in defining members of this population, there is general agreement that the likelihood of recovering conventional functional communicative skills is poor for such patients. Schuell (1964) observed that patients with what she termed "an irreversible aphasic syndrome" made gains in treatment, but that their gains did not become functional and tended to disappear when intensive auditory stimulation was no longer provided. Sarno, Silverman and Sands (1969) found that severely aphasic subjects who received programmed and nonprogrammed instruction and a control group who received no instruction did not differ significantly in learning certain language structures. And Basso et al. (1979) as well as many others (Sands, Sarno, Shankweiler, 1969; Mitchell, 1958; Wepman, 1951), have found severity of aphasia negatively related to improvement in communicative ability. Further, there is reason to suspect that certain speech and language characteristics frequently seen in severely aphasic persons constitute poor prognostic indicators. These include presence of severe anarthria or apraxia of speech (Vignolo, 1964); auditory comprehension errors (Schuell, 1953; Culton, 1969), and a paucity of self-correction behaviors (Wepman, 1958).

The relative abundance of prognostic information on severely aphasic individuals has failed to prompt a major study of the recovery courses of these patients apart from their less involved counterparts. This is surprising in view of the fact that severely aphasic individuals make up nearly half of some clinic populations (Marks, Taylor, and Rusk, 1957). The present study attempted to provide information about the speech and language recovery of a group of severely aphasic individuals. The first portion of the paper describes a severely aphasic patient sample. The second aspect of the paper deals with changes made by these patients during and following a specified period of speech and language rehabilitation. The final portion of the paper presents some of the professional considerations arising from decisions to provide direct services to such patients.

Patient Sample

Selection. For the purposes of this study a severely aphasic patient was defined as an individual, who after completion of a period of language rehabilitation, did not exhibit sufficient expressive ability to independently communicate his needs outside the home environment. The records of patients fitting this definition were reviewed and 25 patients who met the following criteria were included in this retrospective study. (1) All were initially evaluated with the Porch Index of Communicative Ability (PICA), (Porch, 1967)

from one to three months post-onset. (2) All had an overall mean score for the PICA of less than 10.00 at the time of initial evaluation. (3) All had suffered a single left hemisphere stroke. (4) All had received a minimum of two months of traditional speech and language treatment on an individual basis. Traditional refers to procedures similar to those described in Schuell, Jenkins, and Jimenez-Pabon (1964); patients receiving specialized forms of treatment such as MIT were not included.

General Characteristics. All the patients studied had made a good physical recovery and were independent in daily living activities. Twenty-four were ambulatory; 23 lived at home; 22 resided with a spouse or relative. In general, they fit the description of the "typical aphasic patient" given by Benson (1969) who "enters the clinic not walking or talking; and after rehabilitation, leaves the clinic walking, but still not talking."

Speech and Language Characteristics. Table 1 summarizes the major speech and language features of the sample. These data show that the patients ranged in age from 42 to 83 years, that all were evaluated within three months post onset, that 23 of 25 suffered a thromboembolic stroke, and that all were severely or markedly impaired in communicative ability as determined by their overall PICA scores. In addition, most of the patients exhibited characteristics commonly associated with poor recovery. These were; severe apraxia of speech, present in 19 cases; single word auditory comprehension errors, seen in 23 patients; and absence of self correction behavior, seen in 12 patients.

Course of Recovery

Treatment. Each patient studied received at least two months of individual treatment. For 15 patients, treatment was stopped after two months; for 10 patients, treatment continued from one to three months longer. Frequency ranged from four to ten session [of approximately 45 minutes duration] weekly. Representative treatment activities included auditory stimulation to improve retention and comprehension, production of short verbal responses to completion, repetition, and association cues, and production of short verbal responses to questions. Stimulation was provided in all language modalities except writing, and treatment was implemented at the patient's level of performance.

Each patient was administered the PICA at the beginning, after one month, and after two months of treatment. Those receiving more than two months of treatment were given another PICA at the end of their treatment course. From these data the answers to two questions were sought.
1. Do severely aphasic persons make significant changes in communicative ability during a two month treatment period?
2. Do severely aphasic persons make significant changes in communicative ability when given more than two months of treatment?

Results

Figure 1 shows individual and group overall PICA means for the initial, one month, and two month evaluations. Figure 2 shows group means for particular PICA subtests grouped into clusters according to task requirements. Subtests incorporated within each cluster are shown in Table 2, which specifies five clusters: imitation, auditory, reading, gesturing, and formulation. Table 2 also shows that tests IX, C, and D were not included

Table 1. Characteristics of severely aphasic sample at the time of initial evaluation. Age (in years); MPO=months post onset' Etiology: 1=thromboembolic, 2=hemorrhagic; PICA=overall mean initial test; Apraxia: +=present;)=absent; Auditory errors=number of single word identification errors on PICA sub-test X; SSC=number of successful self corrections on PICA; Prognosis: poor, guarded, good, fair, excellent; NR=none rendered.

Subjects (Age)	MPO	Etiology	PICA	Apraxia	Aud. Errors	SSC	Prognosis
1(52)	2	1	8.01	+	1	3	Poor
2(83)	1	1	7.37	0	5	3	NR
3(68)	1	1	7.64	+	6	0	NR
4(60)	1	1	7.36	+	4	0	Poor
5(54)	2	1	8.54	0	8	2	Excellent
6(68)	1	1	8.98	0	1	3	NR
7(58)	1	1	6.16	+	7	0	Poor
8(54)	1	1	5.87	+	4	0	Poor
9(62)	3	1	7.16	+	1	0	Poor
10(63)	3	1	7.42	+	6	0	Poor
11(56	2	1	4.41	0	10	0	NR
12(58)	1	1	8.92	+	0	2	Good
13(65)	1	1	7.20	0	3	0	NR
14(60)	2	1	8.50	+	6	1	Fair
15(46)	1	2	4.49	0	9	1	Poor
16(55)	1	1	6.47	+	4	0	NR
17(58)	1	1	7.03	+	0	4	Poor
18(64)	1	1	6.86	+	8	2	Poor
19(55)	3	1	8.61	+	4	0	Guarded
20(66)	2	1	7.65	+	3	0	Guarded
21(53)	3	1	7.72	+	5	8	Guarded
22(56)	1	1	7.89	+	1	2	Poor
23(42)	1	2	7.36	+	3	0	NR
24(57)	2	1	7.06	+	9	1	Guarded
25(49)	3	1	7.85	+	3	5	Poor

Table 2. Clusters of PICA subtests.

Cluster	Subtest Number and Description
Imitative	VIII matching pictures to objects XI matching objects to objects XII repeating names of objects E copying names of objects F copying geometric forms
Auditory	VI auditory identification of objects by use X auditory identification of objects by name
Reading	V reading cards describing use of objects VII reading cards giving names of objects
Gesturing	II gesturing the use of objects III gesturing the use of objects presented by examiner
Formulation	I formulating sentences describing use of objects IV naming objects A writing sentences describing use of objects B writing names of objects
Not Included	IX giving names of object in sentence completion C writing name of object to dictation D writing names of object spelled by Examiner

because it was not possible to clearly place them in any one cluster. Cluster means were computed for subjects by averaging the means for subtests in a given cluster. Statistical analyses involved carrying out a repeated measures analysis of variance (Winer, 1971) on the initial, first month, and second month PICA tests for the overall and cluster means for the 25 patients. When computed F values revealed group means to be significantly different, Newman-Keuls tests were used to test the significance of differences between each possible pair of means. For the patients who received more than two months of treatment, t-tests were used to compare group performance at the two month and treatment termination points.

   Two Months of Treatment. Figure 1 shows that the patients studied made significant improvement in their overall PICA scores for the two month treatment period. Figure 2 shows that the group cluster means also significantly improved during this period. Newman-Keuls tests revealed all cluster and overall means to be significantly different for all comparisons (P <.05). The question, "Do severely aphasic persons make significant changes in communicative ability during a two month treatment course?" is therefore answered affirmatively.

   Additional Treatment. Figures 3 and 4 provide information about the ten patients who received more than two months of treatment. Figure 3 shows individual and group overall PICA means at the end of two months of treatment and at the termination of treatment. Figure 4 shows cluster means for the group at the same time points. While group and individual means reflect slight improvements from the two month to the treatment termination points, computed t-tests failed to support the significance of these differences for all comparisons. The question, "Do severely aphasic persons change significantly in terms of communicative ability when administered more than two months of treatment?" is answered negatively for this limited number of patients.

Professional Considerations

   A discussion of the need to provide direct speech and language services to severely aphasic individuals would be short-lived if these patients comprised but a small proportion of the total aphasic population. An endless parade of interesting, verbal, readily classifiable Broca's, Wernicke's, or even "TransAtlantic Cable" aphasic patients would cause the clinician little difficulty in dramatically reducing the time spent with severely involved individuals. This would be utopia, and it may be Boston, but it is not clinical reality. A 1957 survey by Marks, Taylor, and Rusk found that even after intensive rehabilitation, nearly 50% of aphasic patients exhibit poor recovery. These patients, because of a lack of expressive ability, are the most noticeable, and the most likely to be referred for repeated evaluations. Whether they are seen directly, informally, or not seen at all, they consume gallons of clinical fuel that cannot be conserved by burying them among more communicative patients. Recognizing them as a patient entity for which we are responsible brings up some of the following considerations:

   Can statistically significant gains on a test be equated with noticeable changes in daily performance? The group of patients studied made significant gains on all PICA measures for the two month treatment period, but none were able to independently communicate outside the home. One yardstick by which communication ability is most easily judged, formulation ability, did not remotely approach functionality. Following treatment those patients who had
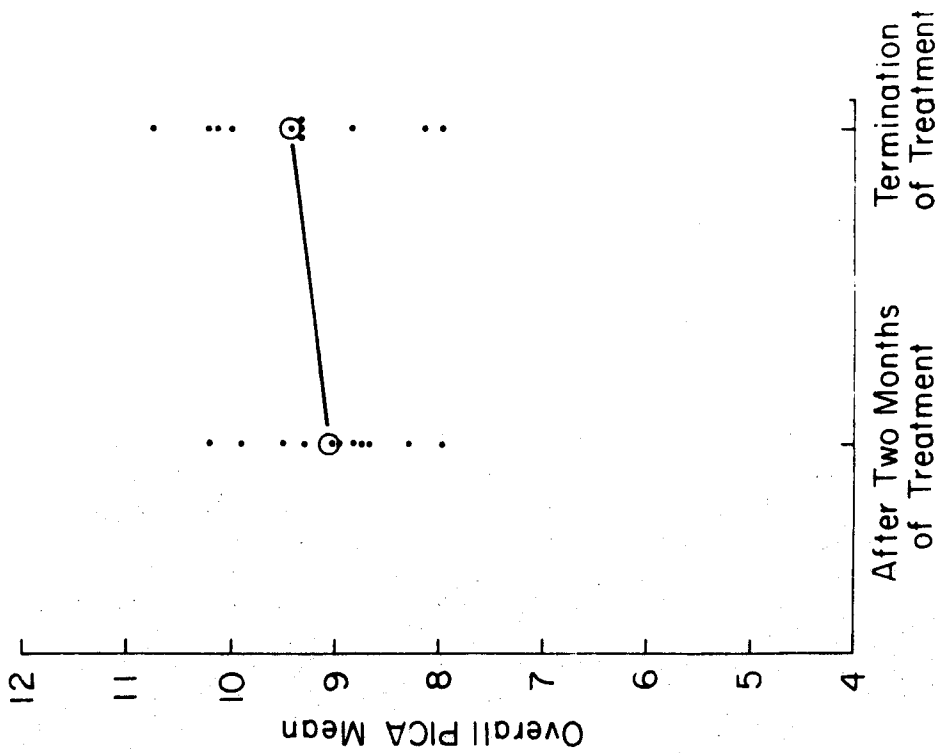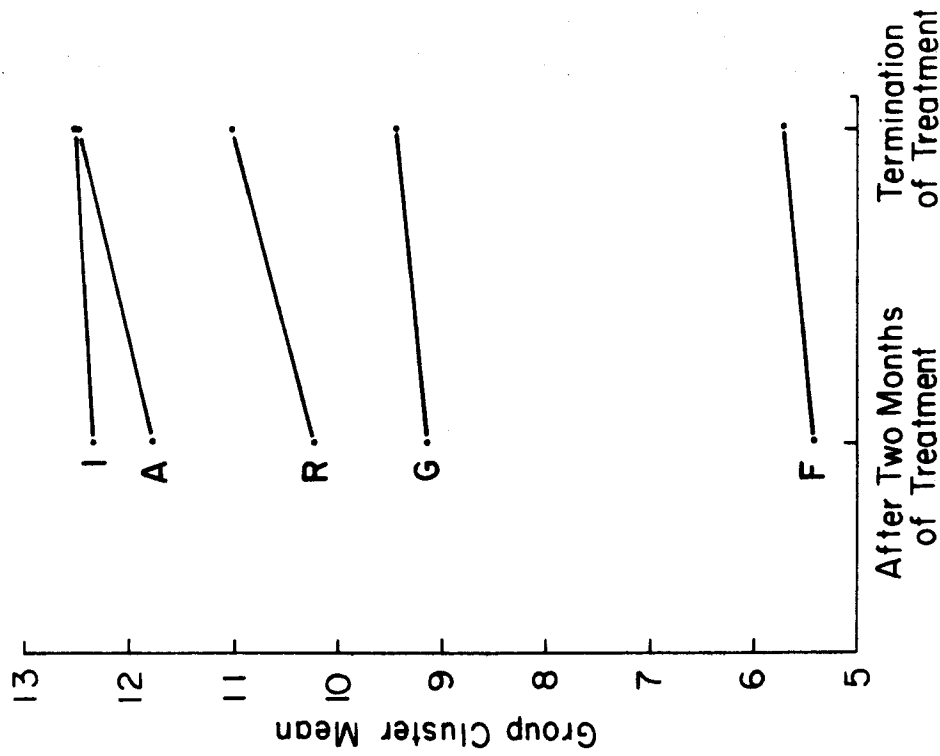
Figure 4. Cluster means for the group of patients (N=10) receiving more than two months of treatment. I=Imitative; A=Auditory; R=Reading; G=Gestural; F=Formulation.
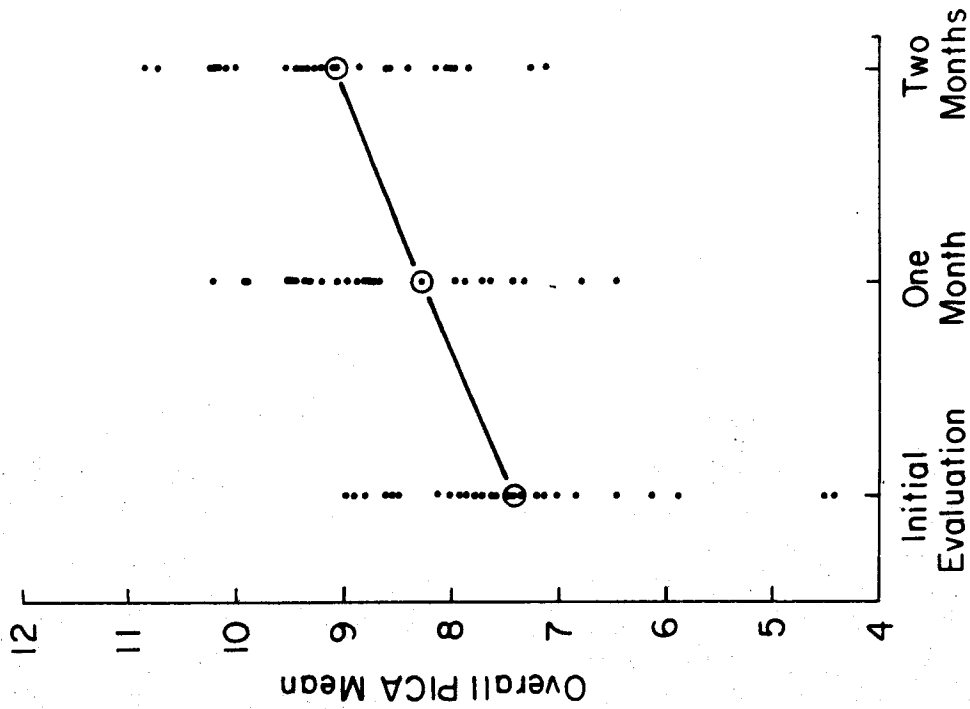

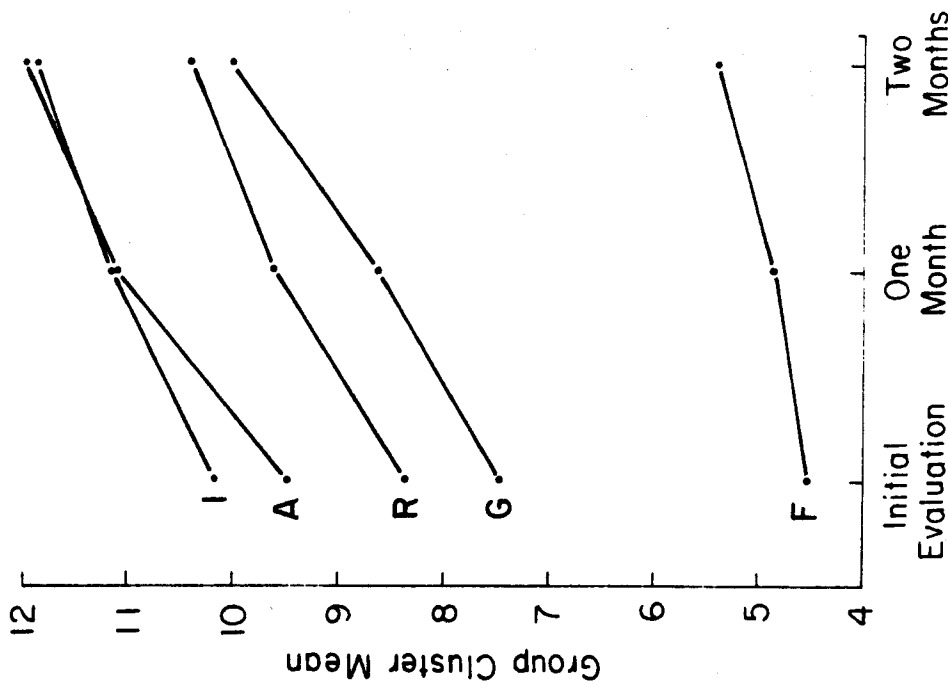Figure 3. Individual and group overall PICA means for patients receiving more than two months of treatment.

Figure 2. Group cluster means (N=25) at the beginning, after one month, and after two months of treatment. I=Imitative; A=Auditory; R=Reading; G=Gestural; F=Formulation. All cluster means were significantly improved during the treatment period. Newman-Keuls tests revealed all means within a cluster to be significantly different (p < .01).

Figure 1. Individual and group overall PICA means at the beginning, after one month, and after two months of treatment. Group means were significantly different (F=49.41; df= 2, 48; p < .01). Newman-Keuls tests revealed all means to be significantly different (p <.01).

begun with overall PICA scores in the "severe" range, had scores in the "marked" range; most of the patients who began treatment with scores in the "marked" range improved within the "marked" range and a few elevated their overall PICA scores into the "low moderate" range of severity. Although the patients improved on paper, these improvements were not easily seen in their lives. This would seem to suggest that reliance on numerical changes in performance could lull the clinician into a false sense of security about the results of treatment of severely aphasic individuals.

Are appropriate treatment approaches being taken with severely aphasic persons? Perhaps too often, and certainly with the patients of this study, treatment has focused on re-establishing verbal communication. Since most people interact by talking, it is not unusual that most clinical and research effort with aphasic clients is directed towards this end. The problem is that these efforts are not working. We recently reassessed a severely impaired client who illustrated no change from his previous year's 16th percentile overall PICA score, but had in the interim received a liberal dose of MIT from another clinician. With the exception of recent work by Wilcox and Davis (1978) and Holland (1977) very little is being done to find the most effective treatment regimes for severely aphasic individuals. To accomplish this, a radical educational process needs to be set into motion which would enlighten those who judge aphasia therapy results by how much talking the patient is doing.

What treatment approaches should be taken with severely aphasic patients? Some answers to this question can probably be found in an in-depth study of the strategies, short cuts, and compensations of those persons, who despite severe limitations in conventional communication, somehow manage to get their point across. Close observation of severely aphasic individuals and their spouses who appear to have made a good adjustment to a chronic problem may also yield valuable information in this regard.

Might some severely aphasic patients be better off without treatment? For certain patients there may be elements present in a stimulating home environment that are more potent than the benefits derived from direct clinic treatment. Followup information was collected on 15 of the patients we studied by means of an additional PICA test. Figure 5 shows overall PICA means for these patients at the end of treatment and at follow up. Three patients showed slight decrements in performance; 12 showed slight to moderate gains. While this information must be interpreted cautiously because of the differing amounts of treatment received by the patients and the variations in time between cessation of treatment and follow up, some patients do appear to change for the better without direct clinical assistance.

Are severely aphasic patients spending too much time in treatment? The results achieved with a small number of patients who received more than two months of treatment suggest that this may be true. A more attractive alternative to long-term, poor-results treatment might be to see the patient for one to two months, and then provide periodic follow up. This would maintain contact with the family, provide objective data as to change or lack of change in the patient, and more importantly, prevent feelings of abandonment and the need to shop for another clinician.

How do we, when all indications at initial evaluation point to a poor prognosis, justify provision of individual speech and language services to severely aphasic patients? Since the outcome of treatment for the patients of this study was rather predictable from the information collected at
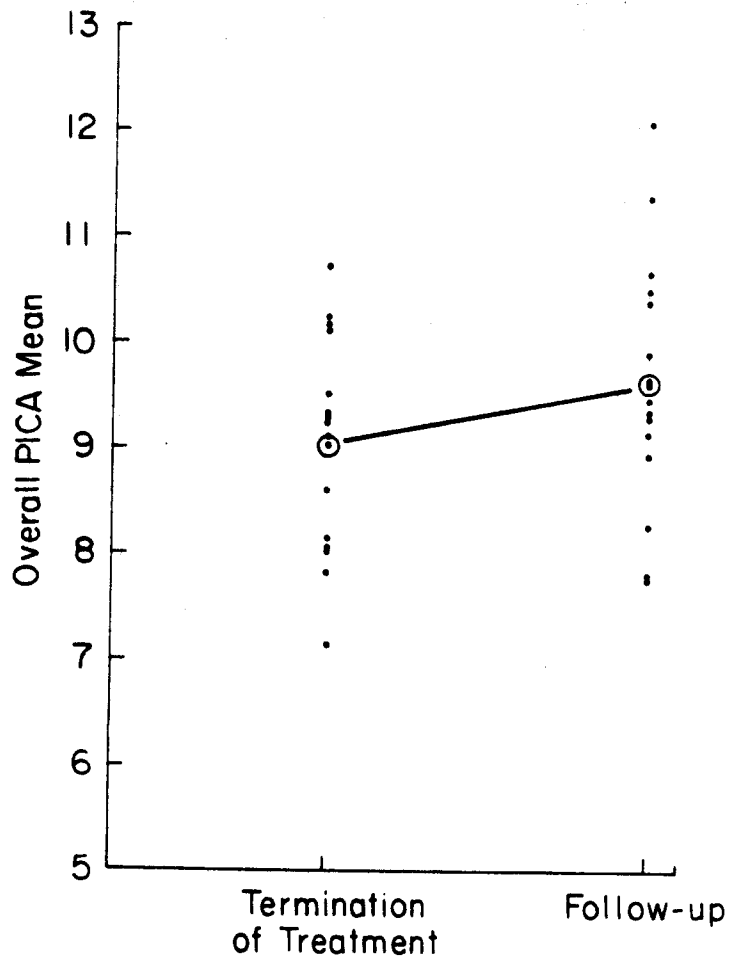
Figure 5. Overall PICA means for subjects at termination of treatment and for follow-up testing (N=15).

initial evaluation, this ethical-professional-moral question is not easily answered. However, in a society where quality of life receives a high priority, each communicatively impaired individual should have the opportunity to maximize his potential. The question then becomes one of "how," instead of "should we?" The answer here lies in appropriate and realistic goal-setting, in the controlling of the time spent with patients, and in developing realistic measures of patient change. This paper has discussed some of these issues and problems. With the emerging concept of "cradle to grave" health care, there will obviously be many more.

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