

Tel-Communicology and the Hearing-Impaired Adult

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This paper describes a working program in Tel-Communicology. Further, it presents a rationale for the use of this approach with older adults, an outline of the funding source for the program, and a discussion of some minor concerns based on clinical experience.

Although similar to the model of Geriatric Aural Rehabilitation outlined by Hull and Traynor (1977a), the process presented in Figure 1 demonstrates how Tel-Communicology can be utilized as part of a treatment program.

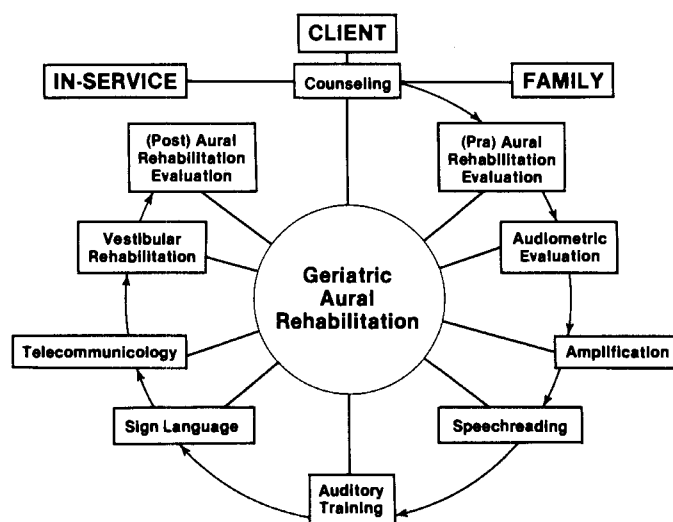


Figure 1. Tel-Communicology within an aural rehabilitation program for the hearing-impaired elderly.

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According to Vaughn (1980), Tel-Communicology is a remote supplementary treatment and evaluation system for persons with speech, language, and hearing disorders. A further refinement of this concept is "REMATE"—a Remote, Automated, Treatment and Evaluation system that utilizes a communications device to store clinician-prepared programs. These supplementary techniques are designed to facilitate treatment for clients with transportation difficulties. Transportation problems are well documented among older adults (Lowry, 1980; Maurer & Rupp, 1979). Additionally, there is some evidence that this procedure may not only circumvent transportation problems but possibly assist the learning process by continued exposure to the material. Walsh (1975) and Atchley (1977), among others, have suggested that older people require longer study time to learn new material. The use of such supplemental treatment in the aural rehabilitation of older adults should greatly facilitate services to some individuals with learning difficulties.

In an effort to utilize this new form of treatment with our hearing-impaired clients, and to build a laboratory allowing students to provide supplemental treatment under supervision, the University of Northern Colorado Aural Rehabilitation Clinic has obtained a Tel-Communicology Laboratory. The purpose of this paper is to discuss the laboratory, its funding, and some initial experiences with this system in the clinical setting.

THE LABORATORY AND ITS FUNDING

The major components of the laboratory consist of a rather complex telephone network requiring various lines and attachments. The following is a list of equipment proposed in June, 1979 for use in the University of Northern Colorado Aural Rehabilitation Clinic: (a) four business lines, (b) two add-on keys, (c) one answering device, (d) two speaker phones, and (e) two star sets. Installation and monthly charges proposed by Mountain Bell are presented in the Appendix. Initial funding was sought from Mountain Bell to subsidize the system as a research center. The proposal was written requesting funds to purchase an answering device facilitating automated presentation of drill materials, VISICOM devices to provide visual communication utilizing Touch-Tone, and to cover the monthly telephone expenses for one year. Although most of the request was for free services rather than actual expenditures, it was rejected approximately nine months later. In the interim, the Aural Rehabilitation Clinic had been approved for an equipment grant by the Colorado Division of Rehabilitation. This agency funded the one-time installation charge and the purchase of the peripheral equipment.

EXPERIENCES WITH TEL-COMMUNICOLOGY

This technique has been utilized in supplementally treating mild to moder-

ate hearing-impaired older clients in various situations. Our clients reside in rural environments, are homebound, or live in nursing homes.

Elderly Clients in Rural Environments

Our clinic is located on the western edge of a large farming community. The clients seen from this area must often drive three to four hours to receive services. Under these circumstances it would be impossible to expect these clients to be at the clinic for two to three sessions per week. It is, however, feasible to utilize Tel-Communicology and conduct supplemental sessions via the telephone. These supplemental sessions can be recorded, analyzed, and could be reviewed at the next face-to-face session which might possibly be conducted once or twice per month.

Home-Bound Clients

These clients are confined to their own home for certain medical reasons. Often this population demonstrates a significant motivation difficulty which can be circumvented by a consistent, caring approach brought to the sessions. Home-bound clients should be visited at least once per month by the clinician and supplementally treated via the telephone at least twice a week. If the clinician is not familiar with this population, it is possible to solicit assistance in working with these clients from local visitory nursing associations. Although the smallest group utilizing our Tel-Communicology services, the home bound present a significant challenge to the rehabilitative audiologist, one which seemed heretofore unsurmountable. The utilization of supplemental aural rehabilitation treatment may nurture the independence of this population and may allow them to remain in their own homes rather than to be placed into institutions.

Nursing Home Residents

This group is the largest population of clients that have utilized our Tel-Communicology services. At first glance, this appears to be a population from which a large number of clients might utilize supplemental treatment. Reportedly, there are approximately 24.0 million individuals over 65 years of age and 1.4 million of these residing in nursing homes. According to incidence studies (Chaffee, 1967; Hull & Traynor, 1977b), approximately 92 percent of the total nursing home population (900,000 people) are hearing impaired and might possibly avail themselves of supplemental services.

Tel-Communicology was initiated with clients that had been attending speechreading groups at various health care facilities supplementary to the group treatment sessions. Although very beneficial to some clients (5 to 10%), the concomitant difficulties of this confined population such as lack of motivation, disorientation, and other health problems resulted in a smaller number of individuals that could possibly have benefitted from supplemental

treatment. Additionally, those that do benefit from this approach sometimes miss these sessions due to forgetfulness, religious activities, or social engagements.

SERVICES PROVIDED WITH TEL-COMMUNICOLOGY

The major services that have been provided utilizing supplemental Tel-Communicology are counseling, auditory training, and educational sessions.

Counseling

Counseling regarding the client's specific hearing disorder, its ramifications, and the use of amplification have long been recognized as an extremely important portion of the aural rehabilitation process. Considerable subjective feedback from the clients regarding their feelings, perceptions, expectancies, etc., is essential to counseling relationships. Clinicians often do not know their clients well enough to interact in such a relationship. Further, it is human to forget some of the problems encountered when participating in an aural rehabilitation session. Tel-Communicology facilitates better counseling by allowing client-clinician contact on a more consistent schedule.

Auditory Training

Most adult auditory training is conducted with small tape recorders and clinician-prepared materials. Whatever the frequency response of the telephone, it is probably *not much* worse than that of these small tape recorders. Presentation of supplemental materials over the telephone is not a difficult task and tends to reduce some of the regression often seen in older clients from week to week. Furthermore, prerecording of routine drill materials on a telephone answering device utilizing various commercial or clinician-prepared materials facilitates unlimited client access to such exercises. In selecting an answering device, the clinician should be aware that most of these devices only present a 45- to 60-second message while clinical materials may require a 20-minute presentation. One device, the Doro 721 (Vaughn, 1980), presents a 20-minute message and also allows for question/answer material. Client responses to these drills can be recorded by the device and discussed during the client's next face-to-face or supplementary session. Tapes for presenting these drill sessions can be recorded by the clinician utilizing readily available auditory training materials. Some of the programs presented to our clients have been stories with questions, sentence repetition, etc.

Educational Sessions

These sessions consist of attempts at facilitating adjustment to the impairment by education. Many older clients do not even realize that hearing aids can be utilized with the telephone. Often, the telephone switch on hearing aids is never utilized because the client never became comfortable using it.

Education of clients regarding these options open to them can be conducted by mailing materials and conducting these sessions supplementarily.

DIFFICULTIES WITH TEL-COMMUNICOLOGY

Our difficulties utilizing Tel-Communicology have centered around two major areas of concern. First, some of the equipment is still in experimental stages, such as the VISICOM (Vaughn, 1980). The VISICOMs purchased by our Clinic appear to have an intermittancy in reception of a transmitted signal. This device is currently undergoing a third generation redesigning, thus, the new models may be more efficient. In addition, our Doro 721 telephone answering device malfunctioned constantly. During the first five months of operation, it was approximately three weeks in clinic use. According to the manufacturer, the major difficulty is that it was originally designed as dictation equipment and that sometimes it needs to be slightly modified to facilitate short responses when functioning in the question/answer mode. Secondly, the cost is almost prohibitive in small clinics. Although we have trimmed our monthly phone expense for the Tel-Communicology Laboratory to \$155.43, this does not include long-distance charges or maintenance costs for the non-Mountain Bell equipment. We have established a fee of \$5.00 per 15-minute supplemental session and have any long-distance charges billed to the client's phone number. This seems to cover most expenses; however, the majority of clients are referred to the Clinic from agencies that have contracts with us to provide all aural rehabilitation services at no charge which significantly reduces the revenue. Furthermore, clients seem somewhat reluctant to add the expense of supplemental treatment to the cost of regular sessions.

In summary, Tel-Communicology appears to be a procedure that facilitates faster progress and better client/clinician relationships, particularly among the older population. The clinician must, however, beware of the limitations and problems of providing supplemental treatment.

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APPENDIX

ONE-TIME CHARGES

| | |
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| Order to put in system | \$ 32.00 |
| Premises visit | \$ 3.00 |
| Two (2) telephones (handling charge @ \$3.00 each) | \$ 6.00 |
| Four (4) business lines @ \$17.00 each | \$ 68.00 |
| Two (2) speaker phones @ \$15.00 each | \$ 30.00 |
| One (1) key cabinet | \$ 75.00 |
| Coding line for Touch-Tone® | \$ 20.00 |
| Light and hold line unit | \$ 20.00 |
| Two (2) telephone sets @ \$28.00 each | \$ 56.00 |
| Two (2) Starset jacks @ \$15.00 each | \$ 30.00 |
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| Total one-time charges | \$340.00 |

MONTHLY CHARGES

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| Four (4) business lines @ \$20.53 each | \$ 82.12 |
| Two (2) speaker phones @ \$9.00 each | \$ 18.00 |
| One (1) key cabinet | \$ 20.00 |
| Four (4) Touch-Tone® lines | \$ 6.92 |
| Four (4) line units @ \$1.25 each | \$ 5.00 |
| Two (2) telephones @ \$6.50 | \$ 13.00 |
| Two (2) Starsets & jacks @ \$6.30 each | \$ 12.60 |
| Two (2) add-on keys @ \$4.25 each | \$ 8.50 |
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| Total monthly charges | \$166.14 |