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A Survey of Aural Rehabilitation Services Provided to Hearing Impaired Clients in the Private Sector

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AN ABSTRACT OF THE THESIS OF Alison Metcalf for the Masters of Science in Speech Communication: Speech and Hearing Sciences presented May 3, 1993.

Title: A Survey of Aural Rehabilitation Services Provided to Hearing Impaired Clients in the Private Sector

APPROVED BY THE MEMBERS OF THE THESIS COMMITTEE:



Thomas G. Dolan, Chair



Leslie Good



Douglas Robertson

While the approaches for providing aural rehabilitation to the hearing impaired are well documented, no research and only a few articles addressed the comprehensive application of these approaches in the private sector. Therefore, a survey of audiologists was conducted to determine how extensively the approaches are being utilized in this setting and what, if any, unmet client needs may exist.

Sixty certified, dispensing audiologists who work in the private sector and reside in Washington, Oregon, Idaho,

Montana, and Wyoming participated in the study.

Participants were identified from membership lists provided by the five states' Speech-Language and Hearing Associations. A questionnaire was constructed to determine the extent that 14 topics, 32 methods, and 18 barriers, which were identified in the literature, are being used or encountered when providing services to these clients.

The survey results indicated that once the standard hearing aid evaluation has been completed, 45% of the respondents are spending less than 60 minutes in providing aural rehabilitation to each client. Only 5% of the respondents were dissatisfied with this amount of time, indicating that 40% believed that comprehensive aural rehabilitation services can be provided satisfactorily in less than one hour.

Eighty-six percent of the topics listed in the questionnaire are being discussed with a majority of the respondents' clients. On an average, the respondents discussed topics relating to Audiogram Results, Hearing Aid Orientation, and Expectations for Hearing Aids with over 90% of their hearing impaired clients. They discussed Trouble Shooting and Communication Enhancement with 76-83% of their clients, and they also discussed Hearing Loss Information and Listening Devices with 58-60% of them. Community Resources was discussed with only 33% of this clientele.

Only 25% of the methods listed in the questionnaire

are being utilized with a majority of the respondents' hearing impaired clients. On an average, respondents utilized methods relating to Oral Instruction with 99% of these clients. They utilized Counseling, Skill Practice, and Support with between 49-64% of them. Respondents utilized the remainder of the methods, including Written Materials, Visual Aids, Referral, Audio-Visual Aids, Structured Classes, and Programmed Instruction, with less than 30% of this clientele. Sixty-three percent of the methods that respondents estimated using with a majority of their clients rely solely upon the ability to hear and comprehend the spoken word, and only 37% of these provide opportunities for repeated exposure to the educational concepts being conveyed.

None of the barriers listed in the questionnaire were perceived by respondents as having a high degree of influence on the services they provide. Only 1/3 of the barriers were perceived as having a moderate degree of influence, including audiologists' lack of time to research or develop instructional materials and clients' a.) denial, b.) vanity or self-consciousness, c.) lack of interest, d.) reluctance to participate in an aural rehabilitation program, and e.) ability to afford a hearing aid.

A SURVEY OF AURAL REHABILITATION SERVICES
PROVIDED TO HEARING IMPAIRED CLIENTS IN THE PRIVATE SECTOR

by

ALISON METCALF

A thesis submitted in partial fulfillment of the
requirements for the degree of

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in
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Portland State University
1993

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and Research

DEDICATION

This thesis is dedicated to the memory of Dr. Harold H. Stephenson, my loving grandfather "Pa," to make him proud. He devoted his life to education and his family.

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Special thanks go to my parents, James A. Metcalf and Helen E. Metcalf. Without your love and support, I couldn't have completed my education or this thesis project.

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CHAPTER I

INTRODUCTION

Many individuals experiencing hearing loss are reluctant to utilize assistive hearing devices or adjust well to them (Madell et al., 1991; Kochkin, 1990). As a result, dispensing audiologists not only must evaluate hearing loss and fit hearing aids, but they also must provide clients with a comprehensive program of educational, counseling, and supportive services. It has been observed that clients who are informed and are active participants in these processes will better utilize and adjust to their hearing aids (Madell, et al., 1991; Smedley and Schow, 1990; Usifer and Davis, 1991).

The elderly are the primary consumers of hearing aids, and this population currently is growing in size. According to Olinger, Dancer, and Patterson (1991), 27-38% of all adults over 65 years of age have some degree of hearing loss. Therefore, it is highly likely that there will be an increase in demand for rehabilitative services to assist them in adapting to hearing loss and hearing aids (Malinoff and Weinstein, 1991). It is vital that audiologists be prepared to respond to this growing need.

Several approaches for achieving this goal have been

recommended by audiologists, including instruction, specific counseling techniques, and skill practice (Patterson and Dancer, 1987); role playing and structured classes (Peterson, 1991); written instructional materials (Usifer and Davis, 1991; Mendel, 1991); video tapes (Irvin, 1991); self-help groups and problem solving strategies (Neuman, 1984); self-assessment tools (Usifer and Davis, 1991; Peterson, 1991), follow-up visits (Madell, et al., 1991); in-home services (Austin, 1992); and referral (Hittner and Borstein, 1990). However, audiologists who work in the private sector, rather than in publicly funded institutional settings, may lack the necessary resources such as adequate staffing, time, and funds to provide the type of extensive services that have been described in the literature.

While the various approaches for providing educational, counseling, and supportive services are well documented, no research and only a limited number of articles (Austin, 1992; Downs, 1991; Usifer and Davis, 1991) have specifically addressed the application of these approaches in the private sector. Of these, none discuss how extensively the various approaches are being used, the range of barriers encountered while providing them, nor how satisfied practitioners are with their level of client services.

A survey of dispensing audiologists working in private practices and clinics was conducted in order to determine how extensively the various rehabilitative approaches are

being utilized in this setting and which, if any, areas of aural rehabilitation should be targeted for improvement. Sixty dispensing audiologists who live in the Pacific Northwest were questioned in an effort to determine how they are conducting aural rehabilitation programs and helping clients accept, use, and adjust to their prescribed hearing aids. A questionnaire containing five research questions was utilized. The questions were chosen for their potential to elicit data regarding topics discussed with clients, methods used, and barriers encountered by these practitioners, as well as their satisfaction with the extent of services that they provided to hearing aid candidates and recipients. The main topics in the questionnaire were:

1. How satisfied are dispensing audiologists with the current level of services they provide in terms of topics discussed, methods utilized, and time spent with each hearing aid candidate or recipient?

2. What specific topics do the practitioners discuss with these clients while providing aural rehabilitation services?

3. What methods do dispensing audiologists use when providing educational, counseling, and supportive services to these clients?

4. What potential barriers influence the nature and/or delivery of aural rehabilitation services provided by audiologists?

5. What additional resources, suggestions, or comments do audiologists have to offer in relation to providing efficient and effective services?

This needs assessment, which is the first stage of evaluation research (Rossi and Freeman, 1985), could provide data that would help audiologists identify any unmet client needs. A second stage of this work would consist of developing strategies for meeting any unmet needs of the hearing impaired. Audiologists could refer to the findings of this study when making decisions regarding the a.) key educational concepts to discuss with clients in need of aural rehabilitation services, b.) choice of instructional and counseling approaches to convey those concepts, and c.) strategies for overcoming barriers that can influence services provided.

CHAPTER II

REVIEW OF THE LITERATURE

Throughout history, hearing impaired individuals have been reluctant to use assistive hearing devices. Much of this reluctance appears to be related to unfounded myths about individuals experiencing hearing loss. Hudson, et al. (1990) suggested that some of these common myths link hearing loss with both the aging process and diminished intelligence. While the elderly constitute the largest group of hearing aid consumers and some intellectually impaired individuals do, indeed, utilize hearing aids, it is grossly unfair and inaccurate to associate either group exclusively with hearing loss.

According to a study conducted by Kochkin (1991), audiologists who dispense hearing aids estimated that 19 million (79%) of the 24 million hearing impaired people in America do not own a hearing aid. The primary reason for non-purchase relates to social stigma, vanity, and cosmetic factors (26%). Other major barriers include cost (22%), lack of awareness of hearing loss (17%), and lack of adequate consumer education (12%) about hearing loss and hearing aid technology.

It should be noted, however, that some advances in

public acceptance of hearing loss and utilization of assistive hearing devices are being made. Kirkwood (1991) claimed that a gradual unmasking of hearing loss is occurring and, as a result, more Americans are recognizing that hearing loss is a serious problem that needs to be identified and addressed. This growing awareness is reflected in the increasing number of hearing-related advertisements in mainstream publications. For example, the Best Company (1992) featured an entire page of "hearing helpers" for the hearing impaired. Advertised products included portable telephone amplifiers, pocket listening devices, and a variety of American Telephone and Telegraphy (AT & T) products such as telecommunication devices, lamp flashers to announce incoming calls, and variable decibel or pitch tone ringers. While these devices have been available for some time, only recently have they begun to be advertised in this type of publication.

The psychological cost to hearing impaired individuals who avoid appropriate intervention is great. For example, hearing loss and aging combined may result in heightened stress within older populations (Garstecki, 1987). Such stress is often related to frustration in everyday communication attempts (Hull, 1978), difficulty in group conversation (Meadow-Orlan, 1985), and stressful family communication (Beattie, 1981). Alpiner and Vaughn (1988) warned that the elderly who need but do not use hearing aids

experience feelings of isolation and embarrassment due to resultant communication problems.

Another study of 63 elderly men and women conducted by Christian, Dluhy, and O'Neill (1989) supported the conclusions of Alpiner and Vaughn. They also found that those who develop greater hearing impairment as they age exhibit higher loneliness scores on the UCLA Loneliness Scale. Given the similarity of these findings, it is easy to concur with Roberts and Bouchard (1989) that the delivery of effective counseling and supportive processes is an integral part of audiological services that all clinicians should provide to their clients. Wylde (1987) agreed when he suggested that counseling should be as much a component in the provision of audiological services as hearing assessment, hearing aids, and evoked potential testing.

Hearing impaired individuals who do purchase hearing aids often experience difficulty adjusting to them. Madell, et al. (1991) determined that inexperienced users reject hearing aids more often than experienced ones. According to Brooks (1989), a negative attitude also significantly detracts from hearing aid adjustment. A study of hearing impaired college students (Flexner, Wray, and Black, 1986) found that many use their prescribed hearing aids inappropriately, lack adequate information about hearing loss, and continue to use poor communication skills. These studies suggest that, in addition to counseling and support,

ample instruction and orientation to hearing aids is also needed.

Some audiologists discuss a wide variety of important topics in the process of providing educational, counseling, and supportive services to hearing impaired clients. The literature contains several articles outlining many of the topics frequently discussed. For example, Bally and Kaplan (1988) described an aural rehabilitation program for hearing impaired seniors and their significant others. In their program, they covered such topics as improving adaptation, coping strategies, fostering consumerism, and self-help. Austin (1992) identified the need to keep clients informed about the latest developments in hearing technology.

Additional topics that audiologists may discuss with their clients were summarized by Mendel (1991) in her review of a hearing aid handbook. Those topics included operation, care, and use of hearing aids; multi-sensory strategies (models) to improve communication; modification of aids and ear molds; adjustment counseling; and assistive listening devices.

Irvin's (1991) review of a videotape about hearing loss recommended that audiologists consider running the videotape in their waiting rooms as a means of informing clients about such basic topics as hearing impairment, benefits from various types of intervention, hearing conservation, impact of hearing loss on language

development, effects of hearing loss, and hearing devices. Suty (1986) also discussed the need to inform hearing aid users about the importance of maintaining communication patterns between hearing impaired individuals and non-hearing impaired family members.

Innovative methods for conveying and exploring these topics also have been discussed in the literature. Patterson and Dancer (1987) described a model program for delivering aural rehabilitation services to older hearing aid users. Their program consisted of four distinct phases. The early phases of this program included extensive client education and desensitization, a counseling technique designed to help individuals overcome fear or embarrassment. Phase 3 and 4 involved practice of rehabilitation skills and responsibility training.

A community based, self-help group for hearing impaired individuals was outlined by Neuman (1984). Participants provided support and discussed practical problem solving techniques for coping with hearing loss. Hittner and Bornstein (1990) advocated use of group counseling, referral, and visual aids in working with hearing impaired clients who are experiencing psychological adjustment problems.

Even a well organized follow-up system can aid in clients' adjustment to hearing aids and obtain the expected benefits of amplification (Madell, et al., 1991). This

method also increases clients' confidence in their audiologist as well as their likelihood of referring family and friends.

In her presentation at the American Speech-Language and Hearing Association Conference, Ms. Peterson (1991) described several methods she incorporates in her efforts to help hearing aid candidates adjust and cope. Following individual assessment, interpretation of the audiogram, and fitting and orientation to hearing aids, she uses a self-assessment questionnaire to help erode denial of hearing loss. Ms. Peterson also demonstrates how clients can be assertive and take control of the communication environment, structures communication practice and role playing with their spouse or support person, and assigns practical homework assignments. This information is conveyed in five weekly, one-to-two hour group classes which are included in her basic fee.

Usifer and Davis (1991) stressed the importance of the client in designing effective aural rehabilitation programs. They believe it is important to give clients professionally written, commercial materials about what to expect from hearing aids, but that retention of the material is ensured by repeated contact with clients via newsletters, special offers for hearing aid check ups, birthday cards, etc. In addition to frequent mailings, they seek increased client satisfaction through use of self-assessment tools and

specific exercises to assist with hearing aid adjustment.

Austin (1992) conducted an informal survey of hearing aid users in Oregon and Southwest Washington. He discovered a very high interest (99%) in convenient service among the 300 respondents. As a result, his company now provides a toll-free telephone number and in-home service.

Of course, there are several barriers which potentially influence the delivery of comprehensive educational, counseling, and supportive services. Barriers such as cost, lack of knowledge about hearing technology, and vanity, which Kochkin (1990) identified as preventing some hearing impaired individuals from seeking appropriate intervention, may also prevent hearing aid users from receiving the extent of professional intervention that they need.

According to Downs (1991), financial considerations often limit the time audiologists can allot to individual clients. Recognizing clients' desire for economical services and private practitioners' need for making a fair profit, Downs believes it may be justifiable to limit client involvement in the process of hearing aid selection and related supportive services in order to maximize both time and money. However, Downs agreed that consumer value, rather than cost, is the key to good service. If a client is presented with more value for only a little more cost, the consumer will often pay the difference. He concluded that an efficient, low-cost rehabilitative and educational

program can go a long way toward improving a clinic's revenues by increasing client referrals.

Austin (1992) suggested that the lack of transportation, ill health, and cost of special transport services such as care cars, ambulances, and taxis prevent many elderly hearing impaired individuals from obtaining needed services.

CHAPTER III

METHODS

A questionnaire (Appendix A), incorporating a structured response format, was used to determine the extent that topics, methods, and barriers previously identified in the literature are utilized or encountered when providing aural rehabilitation to hearing impaired clients. One open-ended, unstructured question also was included as a way of eliciting new ideas, resources, and methods for providing efficient and effective services. According to Fox (1969), the advantage of using a checklist or other structured formats is their ease in response and data analysis. A structured format is further indicated when the population being studied is literate, geographically dispersed, and similar in nature. It also shortens response time, thus increasing the likelihood of participant response (Fox, 1969).

SUBJECTS

The sampling frame established by the researcher to identify prospective participants in the study consisted of master's level audiologists who a.) possessed a certificate of clinical competence in audiology (CCC-A) from the

American Speech-Language and Hearing Association (ASHA), b.) dispensed hearing aids, and c.) resided in the Pacific Northwest region of the United States.

A cover letter (Appendix B), written on Portland State University letterhead, also accompanied the questionnaire. It invited participation and stated the purpose and importance of the study.

The questionnaire, cover letter, and a self-addressed, stamped return envelope were mailed to 204 certified audiologists residing in the states of Washington, Oregon, Idaho, Montana, and Wyoming. Potential respondents were identified from membership lists obtained from each of these states' Speech-Language and Hearing Association. It was not possible to determine from these lists whether they worked in the public or private sector or whether they dispensed hearing aids. To determine this, the questionnaire contained a section on demographic information regarding employment settings and job functions. One hundred and twenty-three of the 204 individuals who were invited to participate in the survey returned the questionnaire, representing a response rate of 60 percent. Of these, 63 did not meet all the stated criteria and were not included in the survey. This selection process netted a total of 60 qualified respondents.

INSTRUMENTATION

Twenty-seven references relating to aural rehabilitation of the hearing impaired were reviewed, and input from four professionals who are knowledgeable about dispensing hearing aids was obtained in order to identify the topics and methods audiologists utilize and the barriers they encounter when assisting hearing aid candidates and recipients. A total of 14 topics, 32 methods, and 18 barriers were identified in this manner.

The first question in the survey used a Likert-type, summated attitudinal scale to determine how satisfied participants were with the subjects discussed, methods utilized, and time spent working with hearing aid candidates. According to Isaac and Michael (1974), the main advantage of these scales lies in the greater variance of responses obtained. For example, when asking respondents if they are satisfied or dissatisfied with the amount of time devoted to aural rehabilitation, a Likert-type scale allows them to indicate neutrality as well as varying degrees of satisfaction or dissatisfaction.

The second question contained topics clinicians might discuss with their clients. Specifically, respondents were asked to estimate the percentage of hearing aid candidates with whom they discuss each topic listed. A similar format was utilized in question III to determine the methods participants use when discussing the identified topics in

question II. Question IV also used a summated scale to identify subjects' perceptions regarding how much personal, financial, and physical barriers influence the nature of services they currently provide to hearing aid candidates. The last question was unstructured and open-ended in order to solicit subjects' comments, suggestions, and recommended resources for providing more effective, efficient services to hearing aid users.

A pretest was conducted with five individuals who recently completed a master's degree in Audiology from Portland State University. This pretest was undertaken as a means of ensuring that the questions were clear, understandable, and relevant. Participants were asked to state their understanding of the questions, answer them, and evaluate the language used in the survey. As a result of their feedback, only minor changes were made in the wording of the questionnaire, and one multi-phased question was simplified to avoid potential confusion.

Validity of the instrument was established by applying criteria of content validity. According to Fox (1969), content validity uses a rational, empirical basis for selecting content. In this study, each category of items contained in the questionnaire was derived from the professional literature or from audiologists working in the field. To further enhance content validity, pretest participants also were asked to note any item that seemed to

be inappropriately included. No challenges were made to the content by pre-test respondents.

PROCEDURES

The questionnaire, cover letter, and a stamped, self-addressed envelope were mailed to invited participants. They were asked to complete the questionnaire and return it by a specified date, approximately three weeks after its initial mailing. Each questionnaire was coded so that the researcher could follow up on late responses. Subjects were informed that the survey was coded for follow-up purposes only and that individual responses would remain anonymous.

Individuals whose questionnaires were not returned by the specified deadline received a follow-up reminder featuring a cartoon (Appendix C). To further enhance the return rate, a news release (Appendix D) was mailed to the newsletter editor of each participating state's Speech-Language and Hearing Association that was selected to be included in the study. This article briefly described the study and asked dispensing audiologists who work in the private sector to contact the researcher if they had not received a copy of the survey.

In addition to the procedures described above, a human subjects' research form was completed, submitted, and approved (Appendix E).

DATA ANALYSIS

The findings of this study were described and summarized using descriptive statistics, including percentages, frequency distributions, and simple means of central tendency.

CHAPTER IV

RESULTS

To assist in the summary of the data, fourteen topics, 32 methods, and 18 barriers typically encountered when providing services to hearing aid candidates were subdivided into 7 or more broad categories. For example, the 14 topics included in the questionnaire were divided into the following categories:

- A. Audiogram results
- B. Hearing aid orientation
- C. Communication enhancement
- D. Expectations for hearing aids
- E. Assistive listening devices
- F. Community services and resources
- G. Trouble shooting
- H. Hearing loss information

The 32 methods were condensed into 10 categories, including:

- A. Written materials
- B. Oral instruction
- C. Visual aids
- D. Audio/visual aids
- E. Structured classes

- F. Programmed instruction
- G. Counseling
- H. Skill practice
- I. Support
- J. Referral

The 14 barriers to providing services were categorized as follows:

- A. Client psychological barriers
- B. Client financial barriers
- C. Clinic time barriers
- D. Market barriers
- E. Clinician barriers
- F. Client physical barriers

Table I identifies the distribution by gender of the invited, accepting, and eligible participants. Research questionnaires were sent to 82 males (40%) and 122 females (60%). Of the 123 respondents who returned the questionnaire, 53 (43%) were males and 68 (57%) were females. The 60 respondents who met all criteria for participation were equally divided between males and females. They also possessed a master's degree in audiology and were ASHA certified.

Figure 1 shows a breakdown of the time that respondents spend instructing, counseling, and providing support to hearing impaired clients after they have administered the hearing aid evaluation. Fifty-five percent of the

TABLE I
DISTRIBUTION OF INVITED, ACCEPTING,
AND PARTICIPATING RESPONDENTS

Gender	Number Invited	Number Replying	Number Eligible
Male	82 (40%)	53 (43%)	30 (50%)
Female	122 (60%)	68 (57%)	30 (50%)

eligible respondents indicated that they devote more than 60 minutes to these activities, 27% devote between 46 and 60 minutes, 13% spend from 31 to 45 minutes, and 5% percent spend between 15 and 30 minutes. None spent less than 15 minutes per client.

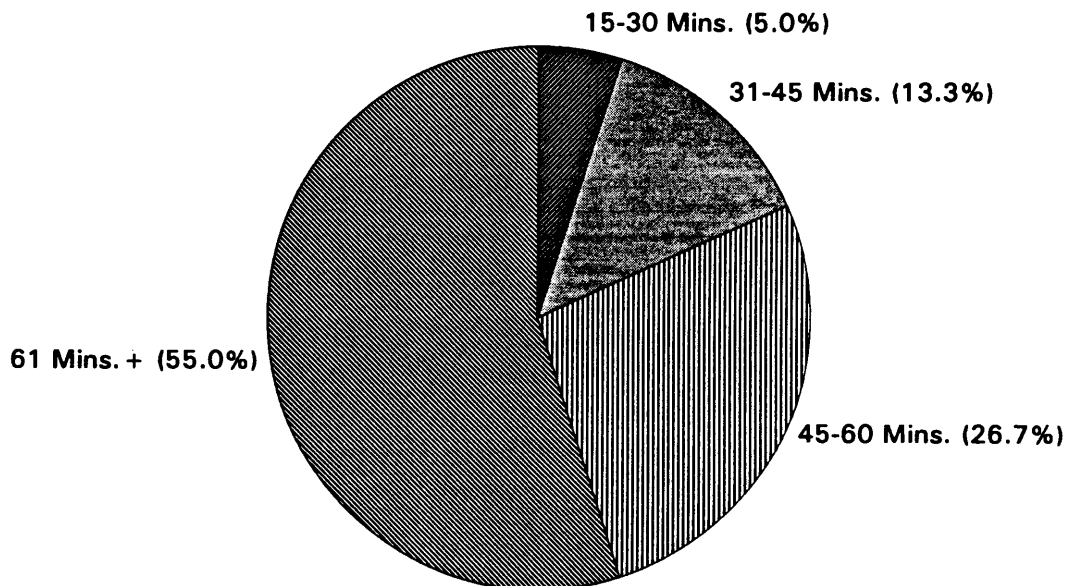


Figure 1. Time dispensing audiologists spend with each hearing aid candidate or recipient.

The remainder of this chapter will be devoted to summarizing the data generated from each of the five main research questions.

QUESTION I

In Question I, respondents were asked to circle the number on three different scales which best describes the amount of satisfaction or dissatisfaction they experience in regard to:

- A. Subject matter discussed with hearing aid recipients
- B. Methods utilized when working with hearing aid recipients
- C. Time spent working with each hearing aid recipient.

The numbers on each scale ranged from 1 to 9, with 1 representing the most dissatisfaction, 5 representing a neutral response, and 9 representing the most satisfaction possible. Data pertaining to this question are given in Table II.

Table II indicates that 95% of the respondents were satisfied with the topics (Scale A) that they discussed. The mean satisfaction score for this scale was 7.4, and individual scores ranged from 4 to 9. Ninety-five percent of the respondents were satisfied with the methods (Scale B) that they used. The mean score for this scale was 7.8, and individual scores ranged from 4 to 9. Ninety percent of the

respondents were satisfied with the time (Scale C) that they spent counseling clients. The mean score for this scale was 7.5, and individual scores again ranged from 4 to 9.

TABLE II
DEGREE OF SATISFACTION WITH SERVICES PROVIDED

Scale	# Dissatisfied (1-4)	# Neutral (5)	# Satisfied (6-9)	Mean	Range
A. Topics	1 (2%)	2 (3%)	57 (95%)	7.4	4-9
B. Methods	1 (2%)	2 (3%)	57 (95%)	7.8	4-9
C. Time	3 (5%)	3 (5%)	52 (90%)	7.5	4-9

* Percentages were rounded to nearest whole number.

QUESTION II

Question II instructed respondents to estimate the percentage of hearing aid candidates with whom they discuss 14 different topics. Data which relate to this question are summarized in table III and figure 2.

Table III summarizes the percentage of clients with whom respondents discussed each topic. The percentages of clients are divided into four ranges, namely 76-100%, 51-75%, 26-50%, and 0-25%. For each topic, the distribution of audiologists within this range is indicated. Thus, 58 respondents indicated that they discussed Hearing Aid Use with 76-100% of their clients, and only 6 discussed Community Resources with 76% or more of their clientele.

TABLE III
ESTIMATED PERCENTAGE OF CLIENTS
WITH WHOM TOPICS ARE DISCUSSED

Topic	Category	Number Estimating 76-100%	Number Estimating 51-100%	Number Estimating 26-50%	Number Estimating 0-25%	Mean*
Hearing aid use	B	58	1	1	0	100%
Hearing aid care	B	59	1	0	0	100%
Audiogram results	A	56	3	0	1	99%
Realistic aid expectations	C	56	3	0	1	98%
Hearing aid selection	B	53	4	1	2	95%
Unrealistic aid expectations	C	47	3	4	6	86%
Communicating with others	E	41	13	3	3	85%
Trouble Shooting	D	34	13	11	2	83%
Kinds of hearing loss	G	31	11	10	8	75%
Communicating with client	E	24	15	14	7	67%
Assistive devices	F	19	13	18	10	60%
Cause of hearing loss	G	27	10	13	10	59%
Incidence of loss	G	14	7	14	25	39%
Community resources	H	2	4	16	38	33%

* Rounded to nearest whole number.

A: Audiogram Results
B: Hearing Aid Expectations
C: Expectations for Hearing Aids
D: Trouble Shooting

E: Communication Enhancement
F: Assistive Listening Devices
G: Hearing Loss Information
H: Community Resources

The letter in the Category column indicates the category in which each item belongs, and the Mean column contains the average of the participants' responses to each item, rounded to the nearest the nearest whole number.

Figure 2 shows the mean percentage of clients with whom dispensing audiologists discussed the 8 different categories of related topics that were listed in the questionnaire. The mean response for each category was derived by averaging the mean of each item in the category. On an average, respondents discussed Audiogram Results, Hearing-Aid Orientation, and Expectations for Hearing Aids with over 90% of their hearing impaired clients. Trouble Shooting and Communication Enhancement were discussed with 76-83% of these clients. Hearing Loss Information and Listening Devices were discussed with 58-60% of their clients. The least discussed category was Community Resources, which was discussed with only 33% of this clientele.

QUESTION III

In this question, respondents were asked to estimate the percentage of clients with whom they utilize each of 32 methods. Results are summarized in table IV and figure 3.

Table IV summarizes the percentage of clients with whom respondents utilized each method. The percentages of clients are divided into four ranges, including 76-100%, 51-75%, 26-50%, and 0-25% of the respondents' clients. Thus,

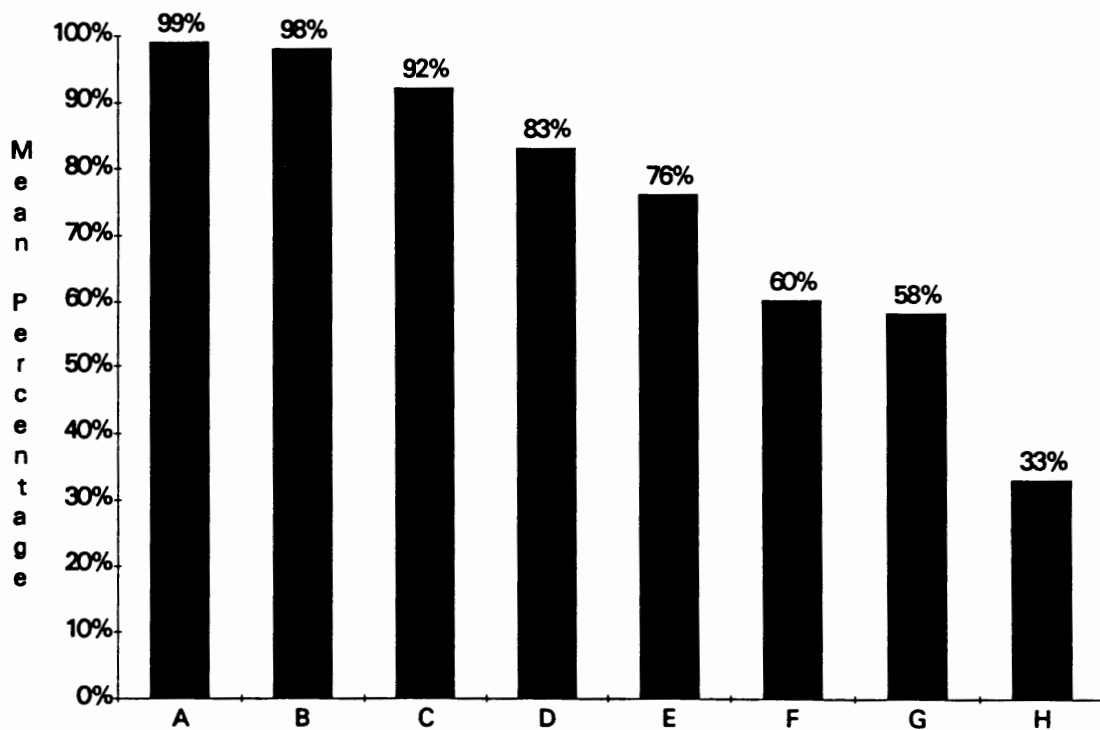
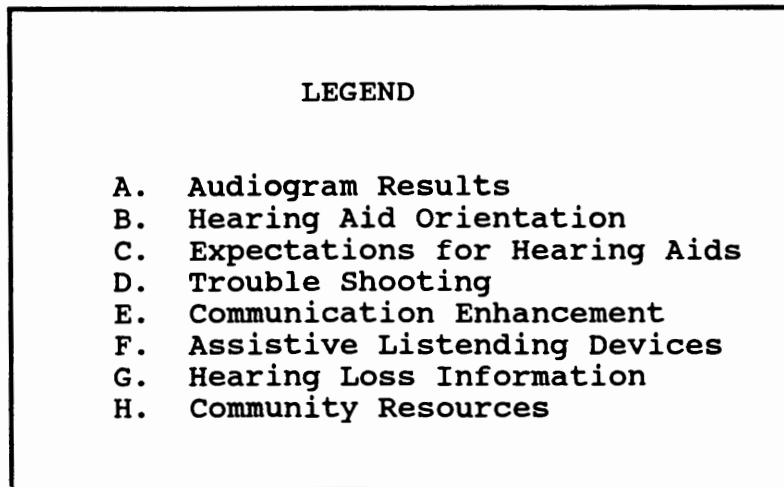


Figure 2. Mean percentage of clients with whom audiologists discuss eight categories of aural rehabilitation topics.

TABLE IV
ESTIMATED PERCENTAGE OF CLIENTS
WITH WHOM METHODS ARE USED

Method	Category	#				Mean*
		Estimating 76-100%	Estimating 51-75%	Estimating 26-50%	Estimating 0-25%	
Instruction/ advice	A	59	0	0	1	100%
Questions	A	57	1	1	1	98%
Aid literature	E	49	2	5	4	91%
Follow-up	B	50	2	5	3	91%
Demo./practice	C	48	2	3	7	89%
Empathy	B	51	3	2	4	89%
Indiv. counsel	D	47	4	6	3	67%
Couple counsel	D	22	9	16	13	51%
Models	F	19	3	9	29	47%
Handouts	E	21	1	7	31	46%
Pamphlets	E	7	4	18	31	36%
Family counsel	D	6	9	8	37	30%
Posters	F	17	3	2	48	28%
Lead support groups	B	3	0	6	51	20%
Hearing assoc. referral	G	2	0	3	55	20%
Article reprint	E	3	1	6	50	19%
Questionnaire	E	6	1	0	53	14%
Support group referral	G	4	2	11	41	14%
Drawings	F	6	2	3	49	13%
Role playing	C	3	1	6	50	13%
Slides/photos	F	3	1	3	53	10%
Newsletters	E	4	1	2	53	10%
Books	E	1	0	3	56	7%
Counseling referral	G	0	0	2	58	6%
Aural rehab. referral	G	1	0	1	58	6%
Video cassette	H	1	0	3	56	5%
Audio cassette	H	0	1	1	58	3%
Classes	I	0	0	1	59	2%
Bibliography	E	0	0	0	60	1%
Work books	J	0	0	0	60	1%
Computer program	J	0	0	0	60	0%
Films	H	0	0	0	60	0%

* Rounded to nearest whole number.

A: Oral Instruction
B. Support
C. Skill Practice.
D. Counseling
E. Written Materials

F. Listening Devices
G. Referral
H. Audio-Visual Aids
I. Structured Classes.
J. Programmed Instruction

59 audiologists indicated that they utilized the method of Instruction and Advice with 76-100% of their clients, while none utilized Films with 76-100% of their clientele. The letters in the Category column indicate to which category each method belongs, and the Mean column contains the average of the participants' responses to each item, rounded to the nearest whole number.

Figure 3 shows the mean percentage of clients with whom dispensing audiologists utilize the 10 different intervention categories that were listed in the research questionnaire. The mean response for each category was derived by averaging the mean of each item in the category. On an average, the respondents utilized methods pertaining to Oral Instruction with 99% of their hearing impaired clients. Three of the categories, including Support, Skill Practice, and Counseling, are utilized with between 49-64% of the respondents' clients. The six remaining categories, including Written Materials, Visual Aids, Referral, Audio-Visual Aids, Structured Classes, and Programmed Instruction are currently being utilized with less than 30% of their clientele.

Table V utilizes a cross break to categorize 46 topics and methods according to their frequency of use by the audiologists. Issac and Michael (1974) state that the cross break is one of the most useful graphic displays of data because of its ability to show trends, similarities, and

LEGEND	
A.	Oral Instruction
B.	Support
C.	Skill Practice
D.	Counseling
E.	Written Materials
F.	Visual Aids
G.	Referral
H.	Audio-Visual Aids
I.	Structured Classes
J.	Programmed Instruction

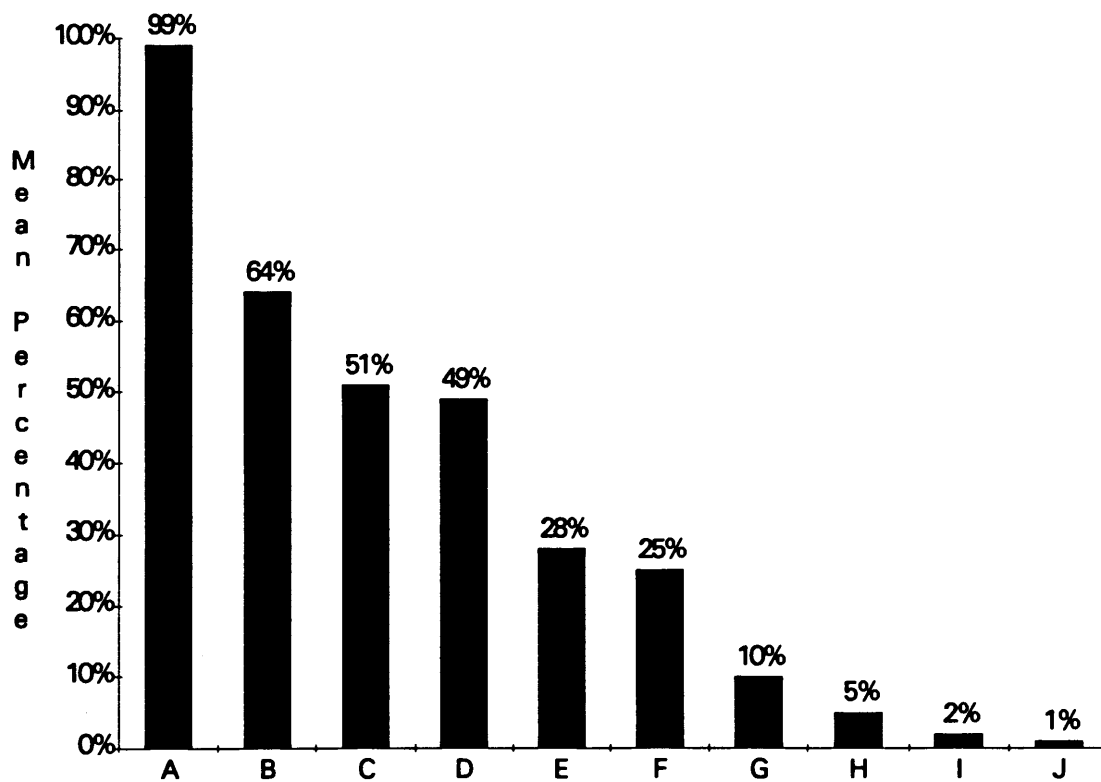


Figure 3. Mean Percentage of clients with whom audiologists utilize ten categories of therapeutic methods.

differences. In its most elementary form, the cross break divides data into four groups, and its entries are made in the form of frequencies or percentages. Table V appears as a simple 2 x 2 contingency table that divides topics and methods into two groups, including "Use by 51-100% of the Respondents" and "Use by 0-50% of the Respondents." This table illustrates that more than 50% of the respondents are conveying almost all of the identified topics, with the exception of Incidence of Hearing Loss and Community Resources, while using only a limited number of the identified methods in ways that may not be optimally effective or efficient.

Items contained in Table V are listed in order of descending frequency. In addition, each method is coded to indicate what sense, such as hearing (H) or vision (V), that the method primarily requires. Some methods are coded as multi-sensory (M), and others are coded as undetermined (U) to indicate that, without observing how the method is actually applied, a determination regarding what senses are required can not be made. An asterisk (*) was used to indicate methods that provide clients with opportunities for repeated exposure to the information that the audiologists conveyed.

Five (63%) of the 8 methods that respondents estimated using with a majority of their hearing impaired clients rely solely upon the ability to hear and comprehend the spoken

TABLE V

INTER-RELATIONSHIP OF FREQUENCY OF USE AMONG TOPICS
DISCUSSED AND THERAPEUTIC METHODS UTILIZED

TOPICS

Use by 51-100% of the Respondents

Hearing aid use
Hearing aid care
Audiogram results
Realistic aid expectations
Hearing aid selection
Unrealistic hearing aid expectations
Communicating with others
Trouble shooting
Kinds of hearing loss
Others communicating with clients
Listening devices
Cause of hearing loss

Use by 0-50% of the Respondents

Incidence of loss
Community resources

METHODS

Use by 51-100% of the Respondents

Instructions/advice (H)
Questions/answers (H)
Hearing aid literature (V)*
Follow-up visits (U)*
Demonstration/practice (M)*
Empathy (H)
Individual counseling (H)
Couples counseling (H)

Use by 0-50% of the Respondents

Models (M)
Handouts (V)*
Commercial pamphlets (V)*
Family Counseling (H)
Posters (V)
Lead self-help groups (H)*
Hearing Association
referral (H)
Reprints of articles (V)*
Questionnaire (V)
Support group referral (H)
Drawings (V)
Role play (M)*
Slides/photos (V)
Newsletters (V)*
Books (V)*
Counseling referral (H)
Aural rehab. referral (H)
Video cassettes (M)
Audio cassettes (H)
Structured classes (U)*
Bibliographies (V)*
Work books (V)*
Computer programs (V)
Films (M)

(H): Hearing
(V): Vision

(M): Multi-sensory
(U): Undetermined

(*): Potential for
repeated exposure

word. Only three (37%) of these methods provide clients with an opportunity for repeated exposure to the information that practitioners attempted to convey.

QUESTION IV

Question IV asked each respondent to use a scale, ranging from 1-9, to rate the degree of influence that 18 potential barriers have on the services audiologists provide to their hearing aid clients. On the scale, 1-3 indicated little or no influence, 4-6 indicated moderate influence, and 7-9 indicated maximum influence.

Table VI lists the mean of each identified barrier. The means ranged from 1.6. to 5.6. On an average, none of the barriers were perceived as having a maximum influence on services provided. Six of the barriers relating to hearing aid cost, client personality, and clinician time were perceived by the respondents as having a moderate degree of influence. The remainder of the barriers were perceived as having little, if any, influence upon services offered.

Table VII contains the mean influence score of each category of barrier that was listed in the questionnaire. These mean scores were derived by averaging the mean response of each item in the category. The mean scores in table VII ranged from 2.3 to 5.3. Only two categories (29%), including Client Psychological Barriers and Clinic Time Barriers, were perceived by respondents as having a

TABLE VI
 MEAN DEGREE OF INFLUENCE OF EACH
 POTENTIAL BARRIER TO SERVICES PROVIDED

Potential Barrier	Category	Degree of Influence
		<u>Moderate</u>
Denies extent of hearing loss	A	5.6
Vanity or self-consciousness	A	5.4
Lack of interest on part of client or family	A	5.3
Reluctance to participate in services offered	A	5.0
Difficulty affording hearing aid	C	4.1
Limited time to research/develop materials required	D	4.1
		<u>Low</u>
Limited time to offer aural rehabilitation services	D	3.9
Lack of transportation	B	3.7
Insurance doesn't cover all necessary services	C	3.6
Scheduling difficulties	B	3.4
Limited funds to purchase needed equipment/supplies	E	3.4
Limited staff to provide needed services	E	2.9
Lack of adequate clinic space	E	2.7
Limited availability of commercial materials	F	2.5
Time spent dispensing hearing aids warrants minimal funds spent on materials in this area	E	2.3
Lack of clinician expertise	G	2.3
Lack of clinician interest	G	2.3
Client declines follow-up services due to cost	C	1.6
A: Client Psychological Barriers		D: Client Time Barriers
B: Client Physical Barriers		E: Clinic Financial Barriers
C: Client Financial Barriers		F: Market Barriers
		G: Clinician Barriers

moderate degree of influence on their service delivery. The remainder were perceived as having little or no influence.

QUESTION V

The last question in the survey consisted of an open-ended, unstructured question. It invited respondents to contribute their own comments and recommendations regarding the topics and methods for working with hearing aid candidates and the barriers practitioners encounter in this process. Respondents also were encouraged to enclose samples of program outlines, product sources, or materials they use with these clients.

Twenty-two (37%) respondents replied to Question V by providing 26 comments or suggestions. Three enclosed handouts or commercial pamphlets, and one sent a letter offering to share results from an aural rehabilitation survey the writer had conducted approximately 10 years previously. All comments were constructive or supportive.

Table VIII categorizes and summarizes the comments made. This table demonstrates that the most comments were made in regards to Methods Used (12), followed by Barriers Encountered (7), and Other (4). Only 3 comments were made regarding Topics Discussed. A total of 8 specific suggestions were offered for improving client services.

At the end of the survey, respondents were asked if they wished to receive an abstract of the survey. More

than half of the respondents requested a copy.

TABLE VII
MEAN RESPONSE FOR EACH CATEGORY OF
BARRIERS TO SERVICES PROVIDED

Category	Mean Response	Range
A. Client Psychological Barriers	5.3	5.0 - 5.6
B. Clinic Time Barriers	4.0	3.9 - 4.1
C. Client Physical Barriers	3.6	3.4 - 3.7
D. Client Financial Barriers	3.1	1.6 - 4.1
E. Clinic Financial Barriers	2.8	2.3 - 3.4
F. Market Barriers	2.5	2.5*
G. Clinician Barriers	2.3	2.3**

* Only one item is in this category.

** The two items in this category had the same score.

TABLE VIII

ADDITIONAL COMMENTS AND SUGGESTIONS MADE BY RESPONDENTS

TOPICS DISCUSSED:

1. Noted that few, if any, community services are available in small communities. (2)*
2. Thought there should be few unrealistic client expectations if counseling processes are effective.

METHODS USED:

1. Requested names of any workbooks, pamphlets, films, and videos used in the researcher's university clinic.
2. Specifically instructs client to bring family members for initial appointment and follow-up sessions. **
3. Noted lack of availability of commercial products. (2)
4. Recommended Auditory-Verbal International, a resource for parents of hearing impaired children. **
5. Recommended audio/visual aids hearing aid companies provide.
6. Attempts to provide most support and referral services due to rural nature of community. (2)
7. Recommended a bulletin board in the waiting room. **
8. Highly recommended structured class format. **
9. Found interest in support groups hard to sustain.
10. Routinely refers all hearing impaired children elsewhere for aural rehabilitation services.

BARRIERS ENCOUNTERED:

1. Wants to start structured classes, but has no resources.
2. Clinic overhead consumes half of clinic receipts.
3. Insurance doesn't cover aural rehabilitation.
4. Provides in-home visits to overcome client transportation problems. **
5. Offers payment plans to overcome financial problems. **
6. Figures cost of follow-up services into hearing aid fees to overcome insurance barrier. **
7. Believes greatest single barrier is public attitude.

OTHER:

1. Noted that most of the topics, methods, and barriers included in survey don't apply to developmentally disabled.
2. Believes personal growth and/or counseling experiences should be a part of an audiologist's professional training. **
3. Expressed good luck to researcher. (2)

- * Unless otherwise noted, only one person made each comment.
 ** Indicates specific suggestions offered.

CHAPTER V

DISCUSSION

A number of important findings relating to time, topics, methods, and barriers were revealed in this study.

TIME FACTORS

Two findings relate to the time audiologists spend with their hearing impaired clients. Once the standard hearing aid evaluation has been completed, 45% of the respondents are spending less than 60 minutes providing aural rehabilitation services to their hearing impaired clients. Furthermore, only 5% of the respondents expressed any dissatisfaction with the amount of time they spend with these clients, indicating that 40% of them are satisfied with attempting to offer comprehensive services in less than an hour.

Financial considerations such as clients' desire for economical services and selective insurance coverage, coupled with practitioners' need to make a fair profit, may contribute to this phenomenon (Downs, 1991). However, the range of time that respondents spent providing aural rehabilitation to hearing impaired clients raises an

interesting question regarding the optimal time needed to provide comprehensive services. That question was not addressed specifically within the scope of this study.

TOPICS

Eighty-six percent of the topics listed in the questionnaire are being discussed with a majority of the respondents' hearing impaired clients. It, therefore, appears that much of the essential information is being conveyed. However, almost half of the respondents are doing so in a time frame which, when compared to the extensive follow-up and structured class activities recommended by Madell, et al. (1991) and Peterson (1991), may be too short to be effective.

Topics pertaining to the hearing aid, such as its use and care, appropriate performance expectations, and trouble shooting, are being covered with 75% or more of the respondents' hearing impaired clients. Communication strategies also are receiving this same level of coverage. However, other important topics such as assistive listening devices, hearing loss information, and community resources are being discussed with only 33-60% of this clientele.

Although it has been duly noted in the literature that discussion of these topics should be an integral part of an effective, comprehensive aural rehabilitation program (Bally and Kaplan, 1988; Paterson and Dancer, 1987; Madell, et al.,

1991), this result suggests that a significant portion of the respondents' clients are not being exposed to this essential information.

In addition to re-evaluating the amount of time that they spend with each client, some audiologists may need to re-acquaint themselves with the entire range of topics that can be covered in a comprehensive aural rehabilitation program. There is also a need for some to familiarize themselves with available community and technological resources so that these topics may be adequately conveyed to their clientele.

METHODS

Only 25% of the methods listed in the questionnaire are being utilized with a majority of the respondents' hearing impaired clients. Of these, 63% rely exclusively upon the ability to hear and comprehend the spoken word. Furthermore, only 37% of these preferred methods facilitate optimum retention of the information by providing repeated exposure to it via methods such as role playing, demonstration and practice, and provision of written materials.

Although the professional literature supports the concepts of repeated exposure to essential information (Usifer and Davis, 1991), and the use of visual aids or multi-sensory methods to enhance understanding (Patterson

and Dancer, 1987; Hittner and Bornstein, 1990, Usifer and Davis, 1991), these important instructional principles are not being applied extensively by the vast majority of the respondents. It is possible that respondents rely upon oral, face-to-face instructional methods because they take less time and are, therefore, more affordable to the client; or audiologists simply may not be knowledgeable about these instructional principles. Regardless, audiologists may need to expand the scope and variety of their methods so that multiple exposure to educational concepts occur and more than one sense is engaged in the learning process. Application of these two strategies are especially important during the early stages of hearing aid adjustment when clients may not fully hear or comprehend the spoken word.

The roles of counseling and support in aural rehabilitation have been well documented (Roberts and Bouchard, 1989; Wylde, 1987). On an average, 64% of the respondents are routinely providing the various types of emotional support, and only 49% are utilizing methods that involve a variety of counseling techniques. Continuing education and audiology training programs may need to provide more extensive offerings in individual, family, and group counseling so that audiologists can become more informed about and comfortable with these processes. In particular, non-directive counseling theory provides important information regarding theory and skills needed to

listen attentively, communicate effectively, offer support, express empathy, provide information, and confront client denial in a sensitive, caring manner (Corey, 1991).

BARRIERS

Several interesting findings relate to the types of barriers that may potentially influence aural rehabilitation services. For example, only one third of the barriers listed in the questionnaire were perceived by dispensing audiologists as having moderate influence on their services. The remainder were perceived as having little, if any, influence.

Client psychological factors, such as denial of hearing loss, vanity, self-consciousness, and lack of interest or reluctance to participate in an aural rehabilitation program represent those barriers thought by respondents to have a moderate influence on the services they provide. Another moderately-rated barrier included clients' ability to afford a hearing aid. These findings are similar to some reported by Kochkin (1991) and Austin (1992). Unlike those studies, the present one also included a variety of clinic and clinician-related barriers. Nevertheless, respondents continued to view client adjustment problems as the category of barriers having the most potential to influence services they provide.

While respondents' perceptions may, indeed, be

accurate, it is possible that the published results of previous studies have conditioned respondents to consider barriers primarily in terms of clients. Another possible explanation is that some audiologists, like many other health care providers, have succumbed to "blaming the victim," a phenomenon first noted by Ryan (1971). Maslach and Jackson (1978) hypothesized that this phenomenon occurs when human service personnel experience high levels of stress resulting from intense, interpersonal contact with clients. If this interpretation is accurate, acquisition of more effective stress management skills may need to be considered. It is possible that many of these skills could be acquired if additional counseling theory and techniques were added to the professional audiology curriculum.

Lack of time to research and develop instructional materials is the only clinic-related barrier that respondents identified as having potential to influence their services. This finding, coupled with the findings that they rely heavily upon face-to-face oral instructional methods and possess adequate supply budgets, suggests that some practitioners are reluctant to expend available funds on a variety of commercial educational materials. Audiologists may need to re-evaluate whether more utilization of such products might, in the long run, save time, increase efficiency, enhance client retention, and reduce client expense.

SUMMARY

The findings from this study suggest that aural rehabilitation programs provided by dispensing audiologists who reside in the Pacific Northwest are influenced by time and financial considerations. Hearing aid affordability and lack of time to research or develop instructional materials may influence the methods audiologists utilize and the amount of time they spend with hearing aid candidates.

Although respondents experience high levels of satisfaction with their services, 45% of them spend less than an hour with their clients once the initial hearing aid evaluation has been completed. Most respondents are discussing the vast majority of the topics listed in the questionnaire with their clientele, but the methods they use to educate, counsel, and support them are somewhat limited in scope and variety. Even though respondents reported having sufficient funds to purchase commercially produced instructional materials, many practitioners' seem to prefer methods that rely extensively upon the spoken word and provide little, if any opportunity for retention through repeated exposure to the information conveyed.

All participants have encountered at least some of the identified barriers which potentially influence the quality of their services. However, with the exception of client adjustment problems, affordability of services, and clinician time factors, they tend to view barriers as having

little, if any, real influence. Despite encountering limited resources in rural areas, negative public attitudes about hearing loss, selective insurance coverage, and time constraints, respondents appear to have developed some creative ways to overcome many of these barriers, as evidenced by the number of thoughtful suggestions they offered for improving client services.

LIMITATIONS AND IMPLICATIONS FOR FURTHER STUDY

A number of limitations are inherent in a study of this nature. First, it was a somewhat restricted sample, since a more comprehensive survey would have included audiologists who reside outside of the Pacific Northwest region. Practitioners were asked to estimate the frequency that they discuss topics, utilize methods, and encounter specific barriers while providing client services. However, this study does not provide a means for comparing their responses with those of the clients they serve. There remains a possibility that clients would respond to the questionnaire in ways which are different from the responses of the audiologists. The researcher also did not ask respondents to evaluate the appropriateness of items included in the survey. Furthermore, no effort was made to seek or compare responses made by audiologists working in the private sector with those employed in the public sector.

Specific suggestions for further research include:

1. Repeating the study, utilizing a population from a larger geographical area
2. Comparing audiologists' perceptions of the effectiveness of their services with the perceptions of their clients
3. Comparing the responses of dispensing audiologists in the private sector with those working in the public sector
4. Conducting a study to determine whether audiologists in private practice do, indeed, experience high job-related stress levels
5. Comparing the comprehension and retention rates of various aural rehabilitation approaches, including those involving conveying information via a.) only the spoken word, b.) multi-sensory methods, and c.) multi-sensory methods that provide opportunities for repeated client contact and exposure to the information
6. Evaluating the effectiveness of respondents' aural rehabilitation programs by testing their clients' retention and application of key concepts and skills.

It is hoped that future researchers will pursue studies in some of the areas suggested above so that dispensing audiologists who practice in the private sector may benefit from new knowledge that can help them develop programs, evaluate them objectively, and make appropriate changes when indicated.

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APPENDIX A

QUESTIONNAIRE

Code # _____

QUESTIONNAIRE**"Survey of Aural Rehabilitation Services Provided
to Hearing Impaired Clients "**

PLEASE NOTE: Questionnaires have been coded for follow-up purposes only. Individual responses will remain anonymous.

DEMOGRAPHIC INFORMATION

1. In what type of setting do you work with hearing impaired clients?

- Private practice
 Privately funded clinic, program, agency, or institution
 Publicly funded clinic, program, agency, or institution
 Other: Please specify: _____

2. Do you devote any of your practice to dispensing hearing aids?

- Yes No

3. How much time do you routinely devote to helping each hearing impaired client accept, use, and adjust to their prescribed hearing aids?

- None If more than 60
 Less than 15 minutes minutes are spent,
 15 to 30 minutes please estimate the
 31-45 minutes average time spent.
 46-60 minutes

PLEASE NOTE: If you a.) do not dispense hearing aids or b.) do not assist clients in coping with their hearing aids, it is not necessary to finish the rest of this questionnaire. Please return the entire, uncompleted questionnaire as soon as possible to A. Metcalf, 2233 N.E. 15th, Portland, Oregon 97212 in order to avoid receiving a follow-up contact. If you do meet the preceding criteria, please proceed. **THANK YOU!**

INSTRUCTIONS FOR QUESTION I. Circle the number on each scale below which best indicates the amount of satisfaction or dissatisfaction you, the clinician, experience in relation to the following areas.

A. Subject matter you discuss with hearing aid candidates:

1	2	3	4	5	6	7	8	9
Dissatisfied				Neutral				Satisfied

B. Methods you utilize when working with hearing aid candidates:

1	2	3	4	5	6	7	8	9
Dissatisfied				Neutral				Satisfied

C. Time you ordinarily spend working with each hearing aid candidates:

1	2	3	4	5	6	7	8	9
Dissatisfied				Neutral				Satisfied

INSTRUCTIONS FOR QUESTION II: This question contains topics clinicians may discuss with hearing impaired clients in their efforts to help them accept, use, and adjust to their prescribed hearing aids. In the designated space at the right of each item, estimate the percentage of hearing aid candidates with whom you discuss the following topics.

(Example: I discuss audiogram results with approximately 75% of my hearing aid candidates.)

QUESTION II

Topics	Estimated Percentage of Clients With Whom This Topic Is Discussed
A. Interpreting Audiogram Results	_____
B. Providing Information About Hearing Loss:	
1. kinds of hearing loss	_____
2. causes of hearing loss	_____
3. incidence of hearing loss	_____
C. Hearing Aid Orientation:	
1. selection	_____
2. use	_____
3. care and maintenance	_____
D. Enhancing Communication Strategies:	
1. hearing impaired client communicating with others	_____
2. unimpaired communicating with impaired client	_____
E. Expectations:	
1. realistic expectations for hearing aid performance	_____
2. unrealistic hearing aid expectations	_____
F. Assistive Listening Devices: (Examples: telephone and television aids)	_____
G. Community Services and Resources	_____
H. Trouble Shooting	_____

INSTRUCTIONS FOR QUESTION III: This question contains various methods for assisting hearing aid recipients. In the designated space at the right of each item, estimate the percentage of these clients with whom you utilize each method.

Methods	Estimated Percentage of Clients With Whom This Method Is Utilized
---------	--

A. Written Materials:

- | | |
|---|-------|
| 1. commercial literature which comes with hearing aid | _____ |
| 2. reprints of journal or magazine articles | _____ |
| 3. commercial pamphlets | _____ |
| 4. books | _____ |
| 5. questionnaires | _____ |
| 6. bibliographies | _____ |
| 7. newsletters | _____ |
| 8. self-prepared handouts | _____ |

B. Oral Methods:

- | | |
|---------------------------|-------|
| 1. instruction and advice | _____ |
| 2. questions and answers | _____ |

C. Visual Aids:

- | | |
|--------------------------|-------|
| 1. posters | _____ |
| 2. slides or photographs | _____ |
| 3. cartoons or drawings | _____ |
| 4. models | _____ |

D. Audio/Visual Aids:

- | | |
|--------------------|-------|
| 1. films | _____ |
| 2. video cassettes | _____ |
| 3. audio cassettes | _____ |

E. Formal, Structured Classes

F. Programmed Instruction:

- | | |
|----------------------|-------|
| 1. work books | _____ |
| 2. computer programs | _____ |

G. Counseling:

1. individual counseling _____
2. couples counseling _____
3. group or family counseling _____

H. Skill Practice:

1. demonstration and practice _____
2. role playing _____

I. Support:

1. express empathy/understanding _____
2. facilitate support groups _____
3. schedule follow-up visit(s) _____

J. Referral:

1. refer to self-help groups _____
2. refer to hearing associations _____
3. refer for counseling _____
4. refer elsewhere for aural rehabilitation _____

INSTRUCTIONS FOR QUESTION IV. This question contains 18 potential barriers to providing services for hearing aid candidates. Utilizing the scale below, record a number at the right of each item, indicating the degree of influence each potential barrier has on services you provide to hearing aid clients.

1	2	3	4	5	6	7	8	9
No influence			Moderate			Maximum Influence		

QUESTION IV

Barriers Influence on Services

A. Client Psychological Barriers:

1. reluctant to participate in services offered _____
2. vanity or self-consciousness _____
3. denies extent of hearing loss _____
4. lack of interest on part of client or family _____

B. Client Physical Barriers:

1. lack of transportation _____
2. scheduling difficulties _____

C. Client Financial Barriers:

1. difficulty affording hearing aid _____
2. declines follow-up services due to cost _____
3. insurance doesn't cover all necessary services _____

D. Clinic Time Barriers:

1. limited time to research and develop materials required _____
2. limited time to offer aural rehabilitation services _____

E. Clinic Financial Barriers:

1. limited funds to purchase needed equipment or materials _____
2. limited staff to provide needed services _____
3. percentage that practice is devoted to hearing aid dispensing warrants minimal expenditure of funds _____
4. lack of adequate space _____

F. Market Barriers:

1. limited availability of commercial materials or products _____

G. Clinician Barriers:

1. lack of interest in this area _____
2. lack of expertise in this area _____

INSTRUCTIONS FOR QUESTION V. Please attach additional page(s) if you wish to contribute your own ideas, resources, recommendations, or comments regarding topics and methods for assisting hearing impaired clients accept, use, and adjust to prescribed hearing aids and the barriers you encounter. Program outlines, product sources, or copies of materials you currently use would be welcomed!

PLEASE RETURN COMPLETED QUESTIONNAIRE by _____ to A. Metcalf, 2233 N.E. 15th, Portland, Oregon, 97212. Thanks for your cooperation!

_____ Check here if you would like to receive an abstract of this survey, including results and recommendations.

APPENDIX B

COVER LETTER

Speech Communication Department
Portland State University
Portland, Oregon

September, 1992

Dear Audiologist:

As a graduate student in audiology, I am conducting a study of N. W. audiologists to determine how aural rehabilitation services are currently being provided to hearing impaired clients in need of hearing aids. It is my hope that the study will reveal a variety of innovative approaches which can be shared with others in the field.

You are invited to participate in this study. Participation would involve approximately 10 minutes of your time to complete the enclosed questionnaire.

I will mail a copy of the survey results to those who participate. If you wish to receive this data, be sure to indicate your interest on the last page of the enclosed questionnaire.

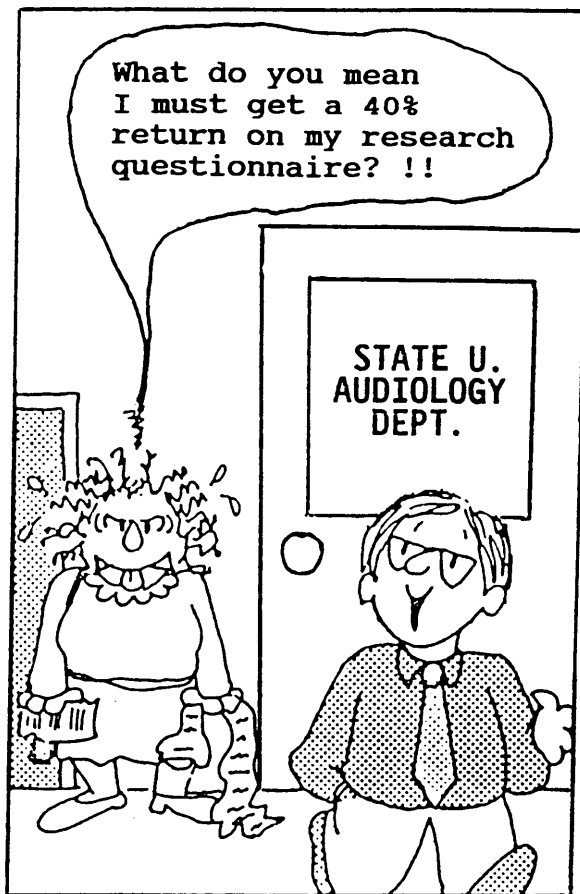
Thank you for your assistance in helping me complete my graduate research project.

Sincerely,

Alison Metcalf

APPENDIX C

FOLLOW-UP LETTER



Dear Audiologist,

Recently a questionnaire was mailed to you which was designed to identify the topics and methods audiologists use and the barriers they encounter when working with hearing impaired clients.

To date your completed questionnaire has not been received. Please take a few minutes from your busy schedule in order to respond. Your cooperation and assistance will be greatly appreciated.

Alison Metcalf
Audiology Program
Portland State University

APPENDIX D

NEWS RELEASE

NEWS RELEASE

TO: Newsletter Editor
Oregon Speech-Language and Hearing Association

FROM: Alison Metcalf, Graduate Student
Portland State University
Speech Communications Department
Audiology Program
Portland, Oregon

DATE: September 15, 1992

A questionnaire recently was mailed to N.W. audiologists who work in the private sector. This survey is designed to determine topics and methods utilized and the barriers encountered while providing aural rehabilitation services to hearing impaired clients.

If you meet the above criteria but did not receive a copy of the questionnaire, you may request one from Portland State University graduate student Alison Metcalf. Alison may be reached by calling (503) 284-9950 or writing her at 2233 N.E. 15th, Portland, Oregon 98212.

Survey respondents may receive a copy of results summarizing innovative, cost-effective services to hearing aid recipients. Your interest and participation in this study will be greatly appreciated.

APPENDIX E

HUMAN RESEARCH SUBJECTS FORM

OFFICE OF GRANTS AND CONTRACTS

DATE: March 17, 1993
TO: Alison Metcalf SSN: 538-90-4436
FROM: Martha Balshem, Chair, HSRRC, 1992-93
RE: HSRRC Waived Review of Your Application titled "A
Survey of Aural Rehabilitation..."

Your proposal is exempt from further HSRRC review, and you may proceed with the study.

Even with the exemption above, it was necessary by University policy for you to notify this Committee of the proposed research, and we appreciate your timely attention to this matter. If you make changes in your research protocol, the Committee must be notified.

c. Office of Graduate Studies