Resident and Staff Education Within an Ecological Audiologic Rehabilitation Program in a Home for the Aged

Éducation des bénéficiaires et du personnel d'un foyer pour personnes âgées dans le cadre d'un programme de « réadaptation audiologique écologique »

by • par

Mary Beth Jennings, MClSc

The Canadian Hearing Society
Toronto, Ontario

Brenda G. Head, MA

Chedoke-McMaster Hospitals
Hamilton, Ontario

ABSTRACT

Resident and staff education programs were an integral part of an ecological audiologic rehabilitation program which was carried out over a 12-month period in a home for the aged. Education focused on empowering communication participants through recognition of communication problems and development of the skills needed to overcome them. A client-centred approach was used, allowing tailoring of the program to individual needs.

ABRÉGÉ

Les programmes d'éducation des bénéficiaires et du personnel faisaient partie intégrante d'un programme de « réadaptation audiologique écologique » qui a duré 12 mois dans un foyer pour personnes âgées. L'éducation avait pour objet de faciliter la communication chez les participants en définissant les problèmes de communication et en développant les aptitudes nécessaires pour les surmonter. La méthode employée étant centrée sur la clientèle, elle permettait d'adapter le programme aux besoins de chacun.

KEY WORDS

ecological • audiologic rehabilitation • institutionalised elderly • primary care staff • education

Approximately 80% of the institutionalised elderly have hearing loss significant enough to interfere with activities of daily living (for a review see Health & Welfare Canada, 1988). As the population ages, greater numbers of individuals with hearing loss will require assistance. Yet, few of the elderly who are institutionalised receive standard audiological services, (Regional Municipality of Hamilton-Wentworth & Hamilton-Wentworth District Health Council, 1988) let alone services beyond the fitting of a hearing aid. Unrealistic expectations, difficulty in handling and caring for hearing aids, and lack of knowledge in this area on the parts of both the elderly individual and primary care staff often result in limited success even when hearing aids are fitted (Holmes, 1995). When hearing aids are being successfully used, a residual handicap still remains due to the fact that hearing aids do not totally overcome comprehension and cognitive deficits related to aging (Chmiel & Jerger, 1996; Granick, Kleban, & Weiss, 1976; Health & Welfare Canada, 1988; Hull, 1992; Pichora-Fuller & Cheesman, 1997; Purves & Orange, 1996; Rousch, 1985; Smaldino & Traynor, 1982; Thomas et. al., 1983).

Provision of comprehensive rehabilitation beyond the fitting of a hearing aid is necessary to ensure access to essential services and to the highest quality of life (Garstecki, 1990; Green, Hesselblad & Cohen, 1985; Health & Welfare Canada, 1988; Kricos, 1995; Noble & Hétu, 1994).

Lack of successful communication will prevent residents from understanding instructions from primary care staff and will also have an adverse effect on social interactions, sense of well-being and quality of life. A common complaint of elderly individuals is difficulty understanding conversation during activities of daily living (Regional Municipality of Hamilton-Wentworth & Hamilton-Wentworth District Health Council, 1988). The inability to participate in group activities, worship services, and telephone conversations, to watch television, or to hear public address system messages or fire alarms undermines the life-style and safety of the elderly with hearing loss.

Appropriate educational programs for both residents and staff in homes for the aged can reduce the handicap experienced by hard-of-hearing individuals in many situations. This occurs

when the information provided is effective in changing participants' awareness of the problem and its significance, as well as their awareness of how to reduce the impact of the problem. The information must be client-specific, environment-specific and geared to the comprehension level of the client (Sanders, 1993). Educational programs for staff members who act as communication partners for residents in homes for the aged are essential (Browne, 1992; Purves and Brooks, 1987; Shultz & Mowry, 1995).

The present paper discusses the resident and staff educational components of an audiologic rehabilitation program implemented in a home for the aged. The program followed an ecological approach to audiologic rehabilitation. This approach includes working with all constituents in the communication process, (that is, the individual with the hearing loss, the communication partner, and the environment) with the goal of facilitating optimal communication. Thus, the individual with hearing loss and the communication partner are provided with education in an attempt to improve communication (Coyte, 1992; Erber, 1988; Getty and Hétu, 1991; Hétu and Getty, 1991; Lubinski, Morrison, & Rigrodsky, 1981; Noble, 1983; Noble and Hétu, 1994; Pichora-Fuller, 1992; Purves and Brooks, 1987). When audiologic rehabilitation follows an ecological model the "normal hearing" world is expanded to include and accommodate individuals with hearing loss (Noble, 1983).

The Audiologic Rehabilitation Program

The audiologic rehabilitation program was carried out at St. Joseph's Villa, a 370-bed charitable home for the aged in Dundas, Ontario between January 1, 1993 and December 31, 1993. The program was divided into two companion research projects. The first project was to develop and implement an ecological audiologic rehabilitation program within a home for the aged (Head, 1990). The second project was to develop and implement a comprehensive protocol to evaluate the effectiveness of the program (Pichora-Fuller, 1990).

The goal of the rehabilitation program was to establish a model for communication-based audiologic health care that would minimise the negative effects of hearing loss on the scope and effectiveness of communication for residents in a home for the aged. The goal was to be met through the administration of the program components, which included hearing assessment, provision, and maintenance of personal hearing aids and assistive devices, environmental modifications to maximise accessibility, education of staff and residents regarding hearing loss and related disability, training in communication strategies, and the operation of an audiology drop-in clinic and self-help group (Jennings & Head, 1994).

Residents Participating in the Audiologic Rehabilitation Program

Thirty residents participated in the evaluation of the rehabilitation program. All residents, including new admissions, had full access to the services but were not included in the evaluation of the program (see Pichora-Fuller & Robertson, 1994a, 1994b, 1997). Age-range of participating residents was 60 to 94 years, with an average age of 85 years. Four participants were male and 26 were female. All were English-speaking. Three residents had hearing within normal clinical limits; five residents had high-frequency sensorineural hearing loss (>2kHz); one resident had a mild sensorineural hearing loss; five residents had a mild-to-moderate sensorineural hearing loss; eight residents had moderate-to-severe sensorineural hearing loss; and one resident had a severe-to-profound mixed hearing loss. Seventeen residents were wearing hearing aids prior to the start of the program. The 13 who were unaided had hearing that did not warrant a hearing aid or preferred to be unaided. Three residents were wearing binaural hearing aids and 14 were fitted monaurally. In total, 20 hearing aids were used: 1 in-the-canal, 10 in-the-ear, 8 behind-the-ear, and 1 body-style hearing aid. Three residents obtained new hearing aids during the first six months of the program (see Pichora-Fuller & Robertson, 1997).

Staff Participating in the Audiologic Rehabilitation Program

The rehabilitation program was open to all staff in the facility. Staff categories included nursing, medicine, occupational therapy, physiotherapy, pastoral care, social work, recreation, dietary, laundry, maintenance, housekeeping, administration, and volunteers.

Resident Education Programs

The goal of the resident education programs was to increase knowledge of hearing loss, instil realistic expectations about the benefits of hearing aids, and optimise communication and social-interaction for residents with hearing loss. Residents with and without hearing loss were included in order to increase the awareness of normal hearing residents who participated as communication partners.

Education was provided on an individual basis, as well as in groups. Those individuals who experienced significant mobility problems, health status that precluded group participation, or hearing loss with substantial receptive communication difficulties were initially provided with individual sessions and then integrated into group sessions, as appropriate. Individuals were seen once or twice a week for sessions which lasted from 20 to 60 minutes.

Group sessions lasted between 30 and 45 minutes, were held once a week, and were provided to ten or fewer individuals. The group sessions had the advantage of allowing participants to meet with others with similar difficulties and to gain and pro-

vide information and support to one another. They also allowed the participants to practice use of optimal communication strategies in a "safe" environment (Sanders, 1993).

A curriculum for the educational programs was developed based on information gathered about the facility and residents during preprogram preparations and from standard problem areas and suggested components found in the literature (Abrahamson, 1991; Alpiner, 1978; Bally & Kaplan, 1988; Hallberg & Carlsson, 1991; Hétu, Riverin, Lalande, Getty, & St.-Cyr, 1988; Hull, 1992; Kirby & Rogan, 1991; Kricos, Holmes, & Doyle, 1992; Lesner & Kricos, 1991; McCarthy & Alpiner, 1978; Purves & Brooks, 1987; Sanders, 1993). References used in the development of the curriculum included materials from Castle (1988), Forgatch and Trychin (1988), Jennings, Sheppard, and Sutherland (1991), Jennings (1993), Trychin (1987, 1993), Trychin and Albright (1993), Trychin and Boone (1987), and Wayner (1990a, 1990b). Information was provided on hearing aids, assistive devices, communication strategies, environmental coping, nonspeech information, and speechreading.

Hearing Aids

Information in educational sessions on hearing aids included how to obtain a hearing aid, batteries, how to insert an earmould, how to insert an in-the-ear hearing aid, parts of a hearing aid, cleaning and care of the earmould and hearing aid, listening checks and troubleshooting. Materials were geared to the style of hearing aid used by the individual. Individuals were also given information on other styles of hearing aids so that they would be prepared to help others. In order to instil realistic expectations, discussion was also provided regarding what hearing aids can and cannot do. Participants were given hands-on practice with care and maintenance procedures.

Assistive Devices

Educational sessions on assistive devices included information regarding infrared systems, FM systems, personal amplifiers, television, telephone and alerting devices, and telephone training.

Samples of all assistive devices described were available for demonstration at group and individual sessions and for resident use. Residents received hands-on orientation to all available devices, including coupling options with hearing aids, i.e., loop, silhouette, direct audio input. FM systems were also available for use in group and individual sessions on an ongoing basis, as well as at recreational activities and worship services.

Communication Strategies

Education sessions on communication strategies centred on discussion and practice in the use of conversational repair strategies. Practice was given through formal exercises and informally, as the occasion arose.

Environmental Coping

Educational sessions on environmental coping focused on identification of poor listening environments and discussion regarding how to cope in these environments. Acoustic issues, problem-solving and assertiveness were discussed.

Nonspeech Information

Educational sessions on nonspeech information included information on the value of facial expressions and gestures. Practice was given in deciphering various facial expressions and useful gestures.

Speechreading

Educational sessions on speechreading included information on speechreading consonants and on environmental and personal factors that influence speechreading. Listening activities, including use of intonation were carried out. Practice was given in speechreading consonants, common phrases, and identifying stress patterns of speech. Speechreading practice was carried out using auditory-visual and visual-only conditions.

Staff Education Programs

The goal of staff education programs was to increase the awareness of hearing loss and related disability and to assist in optimising communication with residents with hearing loss (Health & Welfare Canada, 1988). This was carried out through the provision of formal inservices to groups and through informal, on-the-spot education as the need arose for staff. Education of staff is essential, as communication difficulties impact on the communication partner, as well as the individual with hearing loss, impeding the staff member in carrying out prescribed duties (Sanders, 1993).

Four standard inservices were developed and provided for all departments within the facility. Topics included in the inservices were based on information gathered about the facility during preprogram preparations and from components suggested in the literature (Alpiner, 1978; Browne, 1992; Hutchinson, Schow, & Nerbonne, 1980; Kirby & Rogan, 1991; Lesner & Kricos, 1991; Purves & Brooks, 1987). Four standard 30-minute inservices included an explanation of hearing loss related to the aging process and effects of hearing loss on communication, hearing aids, assistive devices, and environmental coping and problem-solving.

Hearing Loss Related to the Aging Process and Effects of Hearing Loss on Communication

The goal of this inservice was to educate the staff member regarding hearing loss and related disability in the elderly and to promote better understanding of the handicaps experienced by this age group. An underlying aim was to promote greater patience and understanding on the part of the staff member. Information relayed during this inservice included prevalence of hearing loss, causes and characteristics of presbycusis, effects of hearing loss on communication and daily life, and suggestions for improving communication.

Hearing Aids

The goal of this inservice was to educate the staff member regarding hearing aid performance and to orient them to styles and parts of hearing aids, as well as their care and maintenance. Information relayed during this inservice included what hearing aids can and cannot do, how to obtain a hearing aid, batteries, parts and styles, care, maintenance and troubleshooting. Hands-on practice was given.

Assistive Devices

The goal of this inservice was to orient the staff member regarding the wide range of technology available to increase accessibility for individuals with hearing loss. Staff were also encouraged to discuss ways in which technology could be incorporated into the daily running of the facility and what the benefits might be. Information relayed during this inservice included proper use and maintenance of assistive devices including personal amplifiers, FM systems, infrared systems, alerting devices, and telephone devices. Specific focus was given to those devices made available to the facility through the audiologic rehabilitation program. Staff were given the opportunity to try out all assistive devices.

Environmental Coping and Problem-Solving

The goal of this inservice was to orient the staff member to environmental barriers to successful communication for residents with hearing loss. Staff members were also encouraged to discuss creative ways to lessen these barriers. This session included information regarding environmental factors specific to St. Joseph's Villa that interfered with communication for the hearing impaired and discussion of a model for problem-solving (Forgatch & Trychin, 1988).

Informal Education Sessions

When specific issues arose with respect to individual residents, informal educational sessions were carried out in the area in which the problem was encountered and included those people immediately affected by the problem. An inservice was routinely provided to staff when a resident in their care received a new hearing aid. Informal sessions provided an excellent opportunity for ongoing, concentrated education of staff in situations that were immediately relevant to them and, therefore, encouraged carryover of learning.

Techniques Used in Resident and Staff Education Programs

Techniques used in education sessions varied with the individuals involved, subject-matter, and setting. Hands-on orientation was provided for all sessions related to hearing aids and assistive devices. Information, instructions, and demonstrations were repeated, as necessary, until the participant was able to demonstrate understanding, either through hands-on manipulation of devices or through discussion and problem-solving exercises. In order to tailor sessions to the needs of the individual and to allow the time for repetition that is necessary with this population, sessions were carried out on an individual basis with residents. Open discussion was encouraged on all topics and question and answer periods were common.

Special adaptations were made for individuals with low vision. Orientation to assistive devices and hearing aids was supplemented through touch, verbal description, large diagrams, and audiotaped materials prepared by the audiologist. Seven residents who participated had visual loss. Resource folders for each staff inservice were prepared and distributed to each department along with a copy of the Task Force Report "Acquired Hearing Impairment in the Adult" (Health & Welfare Canada, 1988) and its companion folder. A copy of each folder, as well as the Task Force Report was placed in the staff library.

To assist staff, comments regarding the resident's performance were written in individual resident files. In this way, the resident's hearing loss was brought to the attention of staff. This documentation educated staff regarding the intervention that had taken place and the type of support that would be needed by the resident.

Scheduling and Attendance

Resident groups had to be scheduled around a myriad of activities within the facility. Attendance at these groups was somewhat inconsistent. Residents reported difficulty coping with changes in routine that these sessions represented and remembering when sessions were scheduled. In total, 22 out of 30 residents attended group sessions. Eight residents participated only in individual sessions. Our experience corroborates the experience of others who have been involved in resident education (Shultz & Mowry, 1995).

Attempts to overcome these problems included posting a schedule on the office door, sending written reminders to residents, and escorting individuals to sessions. In spite of attendance difficulties, all individuals were exposed to all session information. A self-help group was established that met weekly for the duration of the program for further auditory training, speechreading, information, and support.

Staff education sessions were arranged through the individual departments. For nursing staff, sessions were repeated in three time slots to ensure accessibility to every shift. For all other departments, education sessions were booked at the discretion of the department manager, either during staff meetings or at other times. Of the 403 full and part-time staff, 88 (21.8%) attended the first education session, 44 (10.9%) attended the second education session, 42 (10.4%) attended the third education session and 62 (15.38%) attended education session four. A total of 119 (29.53%) of the 403 staff members attended at least one education session. Low attendance may have been related to time constraints in carrying out prescribed duties for various staff members.

It is interesting to note that staff categories with the highest average rate of attendance included recreation (63%), therapy (75%), seniors' day centre (78%), beauty parlour (80%), social work (80%), pastoral care (100%), and purchasing (100%). All of these departments were involved in interactions with residents that went beyond activities of daily living. The perfect attendance of staff from the purchasing department may likely be attributed to the fact that staff were volunteer visitors to residents during their nonwork hours.

Discussion

Education programs for individuals with hearing loss and their communication partners are critical components of audiologic rehabilitation in homes for the aged. Prevention and remediation of communication handicap can best be achieved by involving all participants in the communication process and by focusing on the environment in which they communicate.

Staff are integral to the education process. Their recognition of the needs of the hard of hearing, understanding of hearing aid care and use, and ability to employ effective remediation strategies are key components in improved quality of care to hard-of-hearing residents. Staff attendance at educational sessions can be a challenge, however, perhaps due to the "invisible" nature of hearing loss and its attendant communication breakdown. Shultz and Mowry (1995) found that staff in nursing homes did not consider hearing loss a significant obstacle in providing service to residents and that they considered hearing aids a time-consuming addition to their already heavy workloads. In our program, inservices that were held during regular department staff meetings, where attendance was expected, had a maximum number of staff attending. Inservices that were booked at other times tended to have low attendance. Inservices that addressed immediate problems known to staff appeared to generate more interest and carryover than general discussions. Ongoing opportunities for education were important, not only to update those who have already attended, but also to educate new staff members.

Attendance of residents at group sessions was inconsistent. It was difficult to schedule these sessions due to the number of activities available during the day. Residents reported difficulty coping with changes in routine and remembering when groups were scheduled. This problem was also observed by Shultz and Mowry (1995). For many residents, individual sessions were also necessary to accomplish learning goals. Residents who attended educational sessions reported them to be helpful, as well as enjoyable.

A variety of measures were employed in our companion research project (Pichora-Fuller & Robertson, 1994a, 1994b, 1997; Robertson, Pichora-Fuller, Jennings, Kirson, & Roodenburg, 1997) to examine the outcome of the rehabilitation program as a whole. It was found that resident attendance at organised activities increased after the implementation of the program. The number of residents reporting that they talked to hard-of-hearing people also increased. There was an increase in resident use of assistive listening devices as well as an increase on the parts of both residents and staff in knowledge of and ability to operate assistive listening devices. Residents were also more willing to take ownership in dealing with everyday communication problems. The importance of early and on-going education of individuals with hearing loss and their communication partners cannot be overemphasised.

Please address all correspondence to: Mary Beth Jennings, Department of Audiology and Speech-Language Pathology, The Canadian Hearing Society, 271 Spadina Road, Toronto, Ontario, M5R 2V3.

Acknowledgements

This project was funded by the National Health Research Development Program of the Department of Health Canada, grant #6606-4612-57E to Brenda G. Head.

References

Abrahamson, J. (1991). Teaching coping strategies: A client education approach to aural rehabilitation. *Journal of the Academy of Rehabilitative Audiology, 24*, 43-53.

Alpiner, J. G. (1978). Rehabilitation of the geriatric client. In J. G. Alpiner (Ed.), *Handbook of Adult Rehabilitative Audiology* (pp. 161-162). Baltimore, MD: Williams & Wilkins.

Bally, S. J., & Kaplan, H. (1988). The Gallaudet University aural rehabilitation elderhostels. *Journal of the Academy of Rehabilitative Audiology, 21*, 99-112.

Browne, N. (1992). Residential homes: Sound policies. *Listen/Écoute, 2* (1), 26.

Castle, D. L. (1988). *Telephone strategies: A technical and practical guide for hard-of-hearing people*. Bethesda, MD: Self Help for Hard of Hearing People, Inc.

Chmiel, R., & Jerger, J. (1996). Hearing aid use, central auditory disorder, and hearing handicap in elderly persons. *Journal of the American Academy of Audiology, 7*, 190-202.

Coyte, P. C. (1992). Outcome measurement in speech-language pathology and audiology. *Journal of Speech Language Pathology and Audiology, 16*, 275-285.

Erber, N. P. (1988). *Communication therapy for hearing-impaired adults*. Abbotsford, Victoria, Australia: Clavis.

Forgatch, M., & Trychin, S. (1988). *Getting along*. (Manual). Bethesda, MD: Self Help for Hard of Hearing People, Inc.

Garstecki, D. C. (1990). Hearing health knowledge of aging adults. *Journal of the Academy of Rehabilitative Audiology, 23*, 79-88.

Getty, L., & Hétu, R. (1991). Development of a rehabilitation program for people affected with occupational hearing loss: 2. Results from group intervention with 48 workers and their spouses. *Audiology, 30*, 317-329.

Granick, S., Kleban, M. H., & Weiss, A. D. (1976). Relationships between hearing loss and cognition in normally hearing aged persons. *Journal of Gerontology, 31*, 434-440.

Green, R. Y., Hesselblad, J. E., & Cohen, N.L. (1985). Aural rehabilitation with the neurologically impaired adult. *Journal of the Academy of Rehabilitative Audiology, 17*, 128-139.

Hallberg, L. R. -M., & Carlsson, S. G. (1991). A qualitative study of strategies for managing a hearing impairment. *British Journal of Audiology, 25*, 201-211.

Head, B. G. (1990). *Application for research project funds: Rehabilitation of hearing-impaired residents in a home-for-the-aged: The program*. Ottawa: Health Canada.

Health & Welfare Canada. (1988). *Acquired hearing impairment in the adult: Report of a task force convened by the Health Services Directorate, Health Services and Promotion Branch*. Ottawa: Supply and Services Canada.

Holmes, A. E. (1995). Hearing aids and the older adult. In P. B. Kricos & S. A. Lesner (Eds.), *Hearing care for the older adult: Audiologic rehabilitation* (pp. 59-74). Boston: Butterworth-Heinemann.

Hétu, R., & Getty, L. (1991). Development of a rehabilitation program for people affected with occupational hearing loss: 1. A new paradigm. *Audiology, 30*, 305-316.

Hétu, R., Riverin, L., Lalande, N., Getty, L., & St.-Cyr, C. (1988). Qualitative analysis of the handicap associated with occupational hearing loss. *British Journal of Audiology, 22*, 251-264.

Hull, R. H. (1992). Hearing loss in older adulthood. In R. H. Hull (Ed.), *Aural rehabilitation* (2nd ed., pp. 215-234). San Diego, CA: Singular.

Hutchinson, J. M., Schow, R. L., & Nerbonne, M. A. (1980). Ageism, communication and the health professional. *Hearing Instruments, 31*, (11), 7-12.

Jennings, M. B. (1993). *Aural rehabilitation curriculum series: Hearing help class two: Coping with hearing loss*. Toronto: The Canadian Hearing Society.

Jennings, M. B., & Head, B. G. (1994). Development of an ecological audiologic rehabilitation program in a home for the aged. *Journal of the Academy of Rehabilitative Audiology, 27*, 73-88.

Jennings, M. B., Sheppard, A., & Sutherland, G. (1991). *Aural rehabilitation curriculum series: Hearing help class one: Help for hearing aid users*. Toronto: The Canadian Hearing Society.

Kirby, V. M., & Rogan, S. D. (1991). A four week group-communication training program for adults [Monograph]. *Journal of the Academy of Rehabilitative Audiology, 14*, 8-16.

Kricos, P. (1995). Characteristics of the aged population. In P. B. Kricos & S. A. Lesner (Eds.), *Hearing care for the older adult: Audiologic rehabilitation* (pp. 1-20). Boston: Butterworth-Heinemann.

Kricos, P. B., Holmes, A. E., & Doyle, D. A. (1992). Efficacy of a communication training program for hearing-impaired elderly adults. *Journal of the Academy of Rehabilitative Audiology, 25*, 69-80.

Lesner, S. A., & Kricos, P. B. (1995). Audiologic rehabilitation assessment: A holistic approach. In P. B. Kricos & S. A. Lesner (Eds.), *Hearing care for the older adult: Audiologic rehabilitation* (pp. 21-44). Boston: Butterworth-Heinemann.

Lesner, S. A., & Kricos, P. B. (1991). Audiologic rehabilitation: Candidacy, assessment and management. In D. N. Ripich (Ed.), *Handbook of geriatric communication disorders* (pp. 439-461). Austin, TX: ProEd.

Lubinski, R., Morrison, E. B., & Rigrodsky, S. (1981). Perception of spoken communication by elderly chronically ill patients in an institutional setting. *Journal of Speech and Hearing Disorders, 46*, 405-412.

McCarthy, P. A., & Alpiner, J. G. (1978). The remediation process. In J. G. Alpiner (Ed.), *Handbook of adult rehabilitative audiology* (p. 95). Baltimore, MD: Williams and Wilkins.

Noble, W. (1983). Hearing, hearing impairment, and the audible world: A theoretical essay. *Audiology, 22*, 325-338.

Noble, W., & Hétu, R. (1994). An ecological approach to disability and handicap in relation to impaired hearing. *Audiology, 33*, 117-126.

Pichora-Fuller, M. K. (1990). *Application for research funds: Rehabilitation of hearing-impaired residents in a home for the aged: The evaluation*. Ottawa: Health Canada.

Pichora-Fuller, M. K. (1992). Commentary on "Outcome measurement in speech-language pathology and audiology" by Peter C. Coyte. *Journal of Speech Language Pathology and Audiology, 16*, 287-290.

Pichora-Fuller, M. K., & Cheesman, M. (1997). Preface to the special issue on hearing and aging. *Journal of Speech-Language Pathology and Audiology, 21*, 75-79.

Pichora-Fuller, M. K., & Robertson, L. F. (1994a). *Final report on rehabilitation of hearing-impaired residents in a home-for-the-aged: The evaluation*. Ottawa: Health Canada.

Pichora-Fuller, M. K., & Robertson, L. F. (1994b). Hard-of-hearing residents in a home for the aged. *Journal of Speech-Language Pathology and Audiology, 18*, 278-288.

Pichora-Fuller, M. K., & Robertson, L. F. (1997). Planning and evaluation of a hearing rehabilitation program in a home for the aged. *Journal of Speech-Language Pathology and Audiology, 21*, 174-186.

Purves, B., & Brooks, B. (1987). Two strategies for aural rehabilitation in an extended care facility. *Human Communication Canada, 11*, 13-16.

Purves, B., & Orange, J. B. (1996). Preface to the special issue on discourse and aging. *Journal of Speech-Language Pathology and Audiology, 20*, 91-92.

Regional Municipality of Hamilton-Wentworth & Hamilton-Wentworth District Health Council. (1988). *Services for seniors study — mapping the way to the future for the elderly: Report of findings and recommendations*. Hamilton, ON: Author.

Robertson, L. F., Pichora-Fuller, M. K., Jennings, M. B., Kirson, S. R., & Roodenburg, K. (1996). Evaluation of a hearing rehabilitation program in a home for the aged: The Scenarios. *Journal of Speech-Language Pathology and Audiology, 21*, 187-198.

Rousch, J. (Ed.). (1985). Aging and hearing impairment [Special Issue]. *Seminars in Hearing, 6*.

Sanders, D. A. (1993). *Management of hearing handicap: Infants to elderly* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Schow, R. L. (1982). Success of hearing aid fitting in nursing homes. *Ear & Hearing, 3*, 173-177.

Schultz, D., & Mowry, R. B. (1995). Older adults in long-term care facilities. In P. B. Kricos & S. A. Lesner (Eds.), *Hearing care for older adults: Audiologic rehabilitation* (pp. 167-184). Boston: Butterworth-Heinemann.

Smaldino, J., & Traynor, R. (1982). Comprehensive evaluation of the older adult for audiological reconditioning. *Ear and Hearing, 3*, 148-159.

Thomas, P. D., Hunt, W. C., Garry, P. J., Hood, R. B., Goodwin, J. M., & Goodwin, J. S. (1983). Hearing acuity in a healthy elderly population: Effects on emotional, cognitive, and social status. *Journal of Gerontology, 38*, 321-325.

Trychin, S. (1987). *Did I do that?* [Manual]. Bethesda, MD: Self Help for Hard of Hearing People, Inc.

Trychin, S. (1993). *Communication issues related to hearing loss*. Bethesda, MD: Self Help for Hard of Hearing People, Inc.

Trychin, S., & Albright, J. (1993). *Staying in touch: A workbook for solving communication problems related to hearing loss*. Bethesda, MD: Self Help for Hard of Hearing People, Inc.

Trychin, S., & Boone, M. (1987). *Communication rules for hard of hearing people*. [Manual]. Bethesda, MD: Self Help for Hard of Hearing People, Inc.

Wayner, D. S. (1990a). *The hearing aid handbook: Clinician's guide to client orientation*. Washington, DC: Gallaudet University Press.

Wayner, D. S. (1990b). *The hearing aid handbook: User's guide for adults*. Washington, DC: Gallaudet University Press.