

## **Critical Review: Does the participation of a significant other in aural rehabilitation classes reduce perceived hearing handicap for older adults?**

Christine De Luca  
M.Cl.Sc. (Aud) Candidate  
School of Communication Sciences and Disorders, U.W.O.

This critical review examines the effects of participation in aural rehabilitation classes with a significant other on perceived hearing handicap for older adults. Study designs include mixed group repeated measures and single group within subject designs. Overall, there is no evidence to suggest there is a positive shift in the attitudes of the individual with hearing loss as a result of significant other participation in aural rehabilitation classes. Although significant other attendance does not positively influence the perceptions associated with hearing loss, there have been no negative reports linked with their participation. At this time, significant other participation continues to be encouraged within aural rehabilitative sessions. Issues such as the relationship of the significant other and the length and content of the groups may have impacts on the outcomes found in the articles. Further research is needed to determine the long-term effects significant others have on hearing handicap perceptions and participation in aural rehabilitative classes for older adults.

### ***Introductio:***

Negative perceptions related to hearing loss and the use of hearing aids is an ongoing issue for many individuals. Apart from assessment procedures and hearing aid fitting appointments, audiologists are faced with the difficulty of bringing a more positive outlook on hearing loss and the use of hearing aids. Negative views associated with hearing loss can be changed through participation in group aural rehabilitation (AR) classes (Hawkins, 2005; Warner-Czyz, 2000). During group AR classes, participants are encouraged to partake in information-based training, communication strategy workshops and/or speech-reading classes. Aside from the beneficial learning opportunities it provides, group AR provides peer-support opportunities and can help to reduce the counseling time typically required on an individual client basis (Warner-Czyz, 2000). With the increasing number of appointments in many audiology clinics today, counseling is often not carried out and as a result, overlooked. It is important that counseling is incorporated during daily practice and assures the highest quality of services to clients (Kricos & Lesner, 2000).

Counseling not only strengthens the client-clinician relationship, it helps foster realistic expectations for the hearing-impaired individual and their significant other (SO). Often, unrealistic perceptions of hearing loss stem not only from hearing impaired individuals, but their SOs as well. The SO is an important part of the communication dyad and their skewed perceptions related to hearing

loss; the use of hearing aids and their perceptions of their partner's hearing handicap influence the perceptions of the person with the hearing loss (Warner-Czyz, 2000).

In the past, SOs have been encouraged to attend and participate in group AR classes. The group members are given the opportunity to share their experiences of hearing loss with one another and how it affects quality of life. For the SOs in the group, it demonstrates that often their perceptions and experiences are not so unique and solitary (Warner-Czyz, 2000). Group AR classes make SOs "better understand the problems of the person with the hearing loss and become aware of the things they can do to make communication more effective" (Hawkins, 2006 p. 301-2). In clinical practice, AR services offered to both clients and their SOs can help reduce perceived hearing handicap and increase the use of hearing aids and communication strategies (Preminger, 2007).

### ***Objectives***

The purpose of this paper is to critically evaluate the literature regarding information-based aural rehabilitation courses with the attendance of a SO. The paper evaluates the impact SO participation has on older adults with hearing loss in reducing perceived hearing handicap. It also looks at the impacts on increasing communication strategies and hearing aid use.

## ***Methods***

### Search Strategy:

Computerized database

Pubmed, OVIDonline, audiology online

Using the following key words:

[(Aural rehabilitation) OR (Group Aural Rehabilitation) OR (Counseling) AND (Communication) OR (Communication Strategies) AND (Hearing aid) OR (Hearing instrument) AND (Hearing Handicap) OR (Handicap) AND (Significant other) OR (Spouse) OR (Family) OR (Friend)]

### Search Parameters:

Limited to English only articles published in 2000 or later.

One article was requested from the author.

### Selection Criteria:

The studies used in this paper were restricted to investigate the outcomes of SO attendance in aural rehabilitation groups. The restrictions placed on this search included older adults aged 50 years and older with some hearing aid experience. Also, the articles were selected such that the Hearing Handicap Inventory for the Elderly (HHIE) questionnaire was common to all articles to measure perceived hearing handicap. No restrictions were placed on the age of the SOs or their relationship to the hearing-impaired participant.

### Data Collection:

The results obtained from the literature search yielded (3) mixed group repeated measures, (2) single-group within-subjects design. Overall the level of evidence received a grade of B with most studies falling in the category of a level 2 on graded evidence.

## ***Results***

### ***Commonalities between the articles***

The common hearing inventory used in all 5 articles was the Hearing Handicap Inventory for the Elderly (Adults) (HHIE or HHIA) which assess the perceived hearing handicap for older adults with hearing loss. The questionnaire uses a self-report methodology and is comprised of a number of statements on social and emotional responses to

hearing loss. The average age of participants was 70.92 with a range of 70 to 71.7 across all 5 studies. The average age of SOs varied across studies thus no average was computed. The 'spouse' was the most common relationship of the SO to the individual with hearing loss. The ratio of males to females for older adult participants with hearing loss was skewed such that there were more hearing impaired male participants than females. More females participated as the 'significant other' when compared to males across all studies. Hearing impaired adults who participated in the studies demonstrated some level of hearing aid use, although not all studies indicated the level of experience. Consistent across all studies was the calculation of pure tone averages (PTA) and all participants had sensorineural hearing losses. The PTA for participants ranged from 30.5 to 57.05 with a mean of 48.57 dB HL. This average signifies a moderate degree of hearing loss. Each article will be addressed individually in the proceeding sections.

### Mixed Group Repeated Measures Design

Preminger (2003) used the HHIE and the Communication Scale for Older Adults (CSOA) to measure SO influence during AR group sessions. Both scales were administered to hard of hearing adults and their SOs. The former scale was used to measure perceived hearing handicap. The latter of the two scales was used to measure the use of communication strategies and attitudes toward hearing loss. Twenty-five older adults with hearing loss and 25 SOs participated in the study. The mean age of hearing impaired adults was 71.3 years. Participation was dependant on and selected based on scheduling availability within a hearing clinic. Two groups were compared in the study—with and without SO groups. The SO participants had the opportunity to rate both themselves and their hard of hearing partner on views of hearing handicap and communication. The HHIE and CSOA questionnaires were modified, therefore, so they were more relevant to the SO participants in the group. These questionnaires were administered to both groups pre- and post-AR participation. Pre-test results demonstrated that scores obtained from the HHIE questionnaire were higher for individuals with a hearing loss than their SOs. HHIE scores were significantly reduced for both hearing impaired and SO participants after completion of the AR groups. SO HHIE scores remained higher when compared to their hard of hearing partners. The author concluded that although there are no statistically significant effects for SO participation, their attendance in AR groups continues to be highly encouraged.

A limitation of this study is the inconsistent administration of the HHIE to the hearing impaired and SO participants. For participants in the 'with SO' group, the HHIE was administered and monitored by an audiologist in the clinic. For the participants in the 'without SO group', the HHIE questionnaires were mailed to the SOs and asked to be completed at home. The implications associated with the inconsistent administration locations suggest that those SOs who were able to complete the questionnaire in the accompaniment of the audiologist, may have had more opportunity for clarification and discussion. For all 12 of the SO participants who completed the questionnaire at home, these opportunities were not available to them.

Taylor (2003) carried out a pre-test, post-test experimental design study on the effect of group composition in group AR classes. A total of 60 adults with a mean age of 70.4 participated in the study. Thirty male and thirty female participants were assigned to one of six groups. The groups were comprised of older adults with hearing loss who participated a) alone b) with their spouse and c) with their peer. The HHIE and the Audiologist Counseling Effectiveness Scale for the Elderly (ACES-E) were used to evaluate the participants' perceived hearing handicap and satisfaction with the audiologist, respectively. These questionnaires were administered at a pre-fitting and 3-week post hearing aid fitting appointment. Results suggested that based on group composition, HHIE was significantly reduced and overall satisfaction with the audiologist was increased when older adults with hearing loss participated in AR groups with a partner. There were no group differences between those adults that participated with their spouse or peer. The limitations present in this study include a lack of information on how the participants were categorized into each category, the basis for selection, or how these parameters were chosen.

Kramer et al (2005) carried out an untreated control group experiment with pre-, post- and 6-months post-test measures. The researchers were interested in comparing the results of the HHIE and International Outcome Inventory (IOI) questionnaires for two groups. These two groups were comprised of people who participated in an at home education program for AR classes (training group) and a control group where no AR classes were offered. A total of 92 people with a fairly evenly distributed number of new and experienced hearing aid users participated in the study. The participants were randomly assigned to either the AR training group or the control group. The AR training group included the hearing impaired adults and their SO and was self-administered. The classes were carried out at the participants' home

over a duration of several weeks (ranging from 5 to 12 weeks). The content of the classes included conversation training, noisy environments, conversations with unrelated persons, medical appointments and group meetings. The HHIE was administered pre-, post- and at a follow-up visit 6 months after intervention to the AR sessions. Results from the study showed that those participants who carried out an at-home, self-administered AR class had significantly lower HHIE scores than those who participated in the hearing aid fitting alone (control group without AR classes). Furthermore, when rated on the quality of life subscale of the IOI questionnaire, the training group participants (both hard of hearing and SOs) showed a significant improvement over long-term measures. The control group however, showed a reduction in overall quality of life measures. Although the study accounted for a number of variables, the length of the AR sessions ranging from 5 to 12 weeks varied considerably and is a limitation of the study.

#### Single-Group Within Subject Design

It is important to define differences in perceived hearing handicap as it relates to a person with hearing loss and their SO. Preminger (2002) compared the results of the current study to a compiled review of previous research. The purpose of the study was to determine how perceived hearing handicap differs between participants when hearing aid experience and SO relationship varies. A total of 50 adults with a mean age of 71.2 years old participated in the current study. Participants were administered the HHIE questionnaire as a pre- and post-measurement test. The HHIE-SO (Newman & Weinstein, 1988) was used for the SOs in the study to make the questionnaire more applicable to them. When compared to previous research, all participants wore and had some level of experience with hearing aids. The SO relationship was similar to previous research in that the spouse was the most common status to the hard of hearing participant. The author concluded that when compared to pre-AR classes, post-scores on the HHIE were significantly reduced for all participants in the study. These results were comparable to previous studies which demonstrated similar findings. This suggests that perceived hearing handicap scores were significantly higher for older adults with hearing loss than their SOs. Although the author accounted for participant hearing aid use, the level of experience and years of use were not specified in the study. The limitation associated with this variability in hearing aid experience (new versus long-time hearing aid user), may influence the HHIE scores obtained on pre- and post-measures.

Stark and Hickson (2004) measured the effects of hearing aid fittings for hearing impaired elderly participants and their SOs in a one group pre- and post-test measure designed experiment. A total of 93 hearing-impaired older adults with a mean age of 71.7 years old participated in the study. The SO was defined as any person with regular interaction with the hearing impaired adult. As a result, the relationship range was quite broad, for example, some relationships included a spouse, daughter, friend, or physician. The authors compared participants with hearing loss and their SOs using the HHIE, the Quantified Denver Scale (modified) (QDS-m) and SF-36 to assess hearing handicap, communication strategies and quality of life respectively. The questionnaires were administered to the participants at an initial assessment appointment, prior to hearing aid fitting, and a post-measure was taken at a 2-week follow-up appointment. Results from the three questionnaires showed that the effects of hearing loss impact both the hearing impaired adult as well as their SO. More specifically, HHIE scores decreased significantly for hard of hearing participants when taken at the post-fitting appointment. The SO participants showed a reduction in QDS-m scores signifying fewer communication difficulties with their hard of hearing partner. In conclusion, the authors encourage SO participation and involvement during hearing aid fittings to help reduce perceived hearing handicap and increase communication strategies between the dyad. One limitation of the current study is the relationship range of the SO to the hearing impaired adult. It is difficult to compare significant group scores when one of the defining characteristics (i.e. SO) varies considerably.

The results from the reviewed articles suggest that SOs should be encouraged to participate in AR groups with the hearing impaired person. There was no concrete evidence to show that their participation does in fact lead to a reduction in perceived hearing handicap. Also, there were no statistically significant results to suggest SO participation increases use of hearing aids or communication strategies.

### ***Conclusions***

Although there is little evidence to support a direct benefit for SO participation in AR groups, there is consensus that there are no negative consequences associated with their participation. Furthermore, researchers in all 5 studies concluded that SOs may contribute insight and support to the hearing-impaired members by learning about the causes and effects of hearing loss and how they may

impact the adult's life (Kramer *et al*, 2005; Stark & Hickson, 2004; Preminger, 2003; Taylor, 2003; Preminger, 2002).

The studies presented some limitations in their findings. One limitation was the relationship of the SO to the hearing impaired adult. This was one of the major inconsistencies across the studies as the definition varied significantly. With the exception of one study, which explicitly defined the role of the SO (Taylor, 2004), the other articles varied in their definition considerably. This is a limitation because of the dynamic relationship between the members in the group and the comparison across studies. As an example, the daily communication between a spouse and their hearing-impaired partner may differ considerably when comparing to an infrequent interaction of another family member or a friend. To measure the effects of SO attendance in group AR, one research consideration is to keep the relationship between the SO and hearing-impaired participants consistent across all group members.

Another limitation noted was the variability in the length of time the AR group sessions were carried out. The members of the group participated in AR classes that ranged from 1 visit to a dozen weeks. This factor may have consequences for the scores obtained on the HHIE and the effectiveness of the AR groups in general. The variability in the number of sessions may have implications for the interpretation of the questionnaire scores. One session may not be sufficient to track changes in the HHIE scores. Likewise, ongoing sessions exceeding 8 weeks, for example, and the variability in program content may produce undesirable results as well (Warner-Czyz, 2000).

### ***Recommendations***

Based on the current literature, one recommendation for clinical practice is to encourage group AR participation. There is sufficient evidence to show that group AR can help reduce perceived hearing handicap, increase the use of hearing aids and foster the foundation of communication strategies (Hawkins, 2005). Furthermore, it is equally important to implement the use of hearing disability and handicap questionnaires into the audiologic assessment and hearing instrument fitting process. Pre- and post-measures can help the clinician track progress and provide a more suitable and individualized treatment plan (Warner-Czyz, 2000).

A final recommendation, based on the current literature findings, is to encourage SO participation in AR group sessions. Although the current evidence to strongly enforce this recommendation is weak, the

findings suggest that SOs can add to the session by providing feedback for the hearing impaired adult (Taylor, 2003). The benefits for SO participation in group AR include learning valuable information, sharing experiences and perspectives on hearing loss and gaining knowledge of the effects on individual lifestyles. The SO can help provide support and encouragement for their hard of hearing partners. At this time, further research is needed in this area to conclude whether SO participation during AR classes is truly beneficial for both the hard of hearing partner and the SO.

#### ***Recommendations Summarized***

- Provide group AR in audiology clinics
- The duration of the groups should last between 4 to 8 weeks. Further research is needed to determine the most effective length of time.
- Track progress by administering hearing disability and handicap questionnaires (COSI, HHIE, ACES etc.) pre- and post-sessions
- Encourage SO participation during all sessions

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#### ***Author Affiliation***

C. De Luca is a M.Cl.Sc (Audiology) candidate in the School of Communication Sciences and Disorders at The University of Western Ontario, London, Ontario.