Aural Rehabilitation Programme (Psychosocial Intervention) for Hearing Impaired

The results of the present study show that the severely hearing impaired individuals showed poor quality of life, greater learned helplessness and higher perceived social isolation. Since the stigma associated with hearing loss is the principal source of these behaviours, with this in mind, an aural rehabilitation programme was developed after review of relevant literature, taking into account the passivity and social withdrawal that characterize hearing loss. **Aural rehabilitation** includes any non-medical intervention designed to remediate hearing loss and improves communication. It also included counselling the hearing impaired person and his or her family about the implications of hearing impairment, as well as conducting hearing aid orientation and follow up to ensure proper hearing aid use. Training on maximizing the visual cues and residual hearing was provided. Formal speechreading instructions and auditory training were also recommended to enhance their social interaction. The goal of the programme was to provide a holistic approach to create a setting in which self esteem could be restored so as to induce affected individuals to seek out actively solutions to their hearing related problems, enhancing social relations and altering their attitudes towards their own condition.

**OBJECTIVES:**

The objectives were to study the effect of aural rehabilitation programme on:

1. Perceived Social Isolation
2. Learned Helplessness
3. Physical, Social, Psychological and Environmental Domains of Quality of Life

**HYPOTHESES:**

1. Post aural rehabilitation, perceived social isolation of hearing impaired would be significantly reduced in comparison to the pre aural rehabilitation.
2. Post aural rehabilitation, learned helplessness of hearing impaired would be significantly less in comparison to the pre aural rehabilitation.

3. Post aural rehabilitation, quality of life of hearing impaired would be significantly improved on Physical, Social, Psychological and Environmental domains in comparison to the pre aural rehabilitation.

**Design:**

Pre-Post assessment design was adopted to examine the efficacy of rehabilitation programmes on perceived social isolation, learned helplessness and quality of life of the severe hearing impaired individuals. Paired t-test was applied to see the significant difference between pre and post scores of perceived social isolation, learned helplessness and quality of life.

**Participants:**

The participants in this part of the study were those severe hearing impaired individuals who were high on perceived social isolation and learned helplessness having poor quality of life identified with the help of Friendship scale for social isolation: (Hawthorne, 1996), LH scale for learned helplessness: (Verma et al., 1988) and WHOQOL-Bref for Quality of life: (WHOQOL, 1998). The sample consisted of 60 severely hearing impaired individuals. Out of initial intake of 60 individuals, three individuals did not turn up to participate in the intervention and five couldn’t complete the intervention sessions due to their personal unavoidable reasons. Practically the experimental group consisted of 52 individuals. The aim and procedure of study was thoroughly explained to all the participants.
Procedure:

Aural Rehabilitation programme was applied to 52 individuals. The whole group was divided into four sub groups consisting of 11 to 13 participants in each group. Each subgroup was given 9-session psychosocial intervention designed specifically to improve their quality of life by reducing perceived social isolation and learned helplessness. Psychosocial intervention would be described in detail in the following separate section. These sessions were conducted in the hospital settings. All the sessions were conducted in a separate room in which chairs were arranged in a semi-circular manner so that each participant could easily look at others as well as at the experimenter. Each session was 90 to 100 minutes of duration and conducted five days in a week. Since the intervention sessions were planned according to the availability of participants, no absentees in any of the sessions were recorded. This whole exercise for one group took around two weeks.

After nine sessions of psychosocial intervention, all individuals were administered Friendship scale, LH scale and WHOQOL-Bref scale. Scores on perceived social isolation, learned helplessness and quality of life, available from Part I of the study, were used as pre scores. Pre-post intervention comparison for perceived social isolation, learned helplessness and quality of life was done with the help of repeated t-test.

Aural rehabilitation programme

A nine session Experimental Aural Rehabilitation Programme was designed specifically for the present research work appropriate for this specific sample. The intervention was developed focusing on effective communication, training to read facial expressions and use of hearing aid and Psychosocial Support Channels. Experimental
rehabilitation programme was categorized according to Cunningham’s classification (Pollack, 1978) suggesting a continuous transition from no or little personal contribution to the patients’ active participation. Two categories ordered from low to high active individual’s involvement were identified as:

1. **Counselling Sessions**, primarily focused on providing medical or procedural information, included two sessions. The first session of this stage included information counselling, whereas the second session focused on personal adjustment counselling.

2. **Social support** referred to professionally guided support groups providing mutual help. The most important aspect of this type of intervention was the emotional support and the communication of shared experiences.

The detailed session-wise curriculum of intervention is presented below:

1) **Counselling**. It was primarily based on providing medical or procedural information. In order to do justice to the subjects, the whole group was divided into three groups. Two types of counselling were provided: **Informational Counselling and Personal Adjustment Counselling**. Sessions were planned aiming at the following benefits:

- Enhanced understanding of hearing loss and its effects on communication
- Better self disclosure and self acceptance
- Greater knowledge about how to manage communication problems
- Reduced stress and discouragement
- Increased satisfaction with aural rehabilitation services
- Increased motivation to minimize listening problems

**Informational Counselling:**

The information provided during this type of counselling was concerned to the hearing loss itself, listening devices technologies and the availability of rehabilitation classes
like speechreading or communication strategies techniques. The important goal was to present information in such a way that the patient will both understand what is said and remember the important points. They were advised to supplement their verbal presentation with written and graphic materials such as drawing and pictures. Two sessions were conducted in this phase a) Amplification orientation b) Effective communication.

**Session I: Amplification orientation**

Intervention aimed at strengthening self esteem is prerequisites for attempts to supplement auditory capacity. The purpose of this session was to provide orientation to use of hearing aids. This included hearing aid prescription, hearing aid orientation, care and maintenance of hearing aid. Out of 57 subjects, 52 reported and agreed for the amplification phase. In this session, the subjects were given detailed demonstration on how to care and use hearing aid and what precautions must be taken while using the same. The participants were called in a sound treated room having semicircular sitting arrangement. Brief introduction of all individuals were given to each other. Hearing aids of all individuals were prescribed and switched on. Initially participants were hesitant to share their problems but after coming to know that all are sailing in the same boat, they made themselves comfortable within first few minutes of the session.

They were instructed as:

- Avoid leaving hearing aid near stove and electrical stabilizer.
- Avoid wearing aids in too hot or rainy season, or taking shower or while swimming.
- Remove battery when the aid not in use.
- Store the instrument in tightly closed container with silica gel packet to absorb moisture.

Hierarchies of listening situation were demonstrated on the initial use of hearing aid. They were advised “use hearing aid initially in the quiet living room gradually introducing themselves to television or radio, and then to conversation in quiet room gradually shifting to public places. Use your hearing aid in quite, noise-free environment using one-on-one conversation and be close to speaker, avoid noisy and multiple speakers’ conversation with them.” At the end of session realistic expectations
from hearing aids were discussed that is hearing aids just amplify the sounds according to their hearing loss. The whole session lasted for 90 to 100 minutes. At the end, the participants were told to rehearse and implement at home whatever they had learnt in this session, and requested to come back after four days for the second session on effective communication.

Session II: Effective Communication

The purpose of this session was to focus on those communication strategies which can make the communication more effective for the speaker as well as the listener. Before starting the second session, review of previous session was done in which they narrated their experiences of implementing the instructions received in the amplification orientation session. They were very enthusiastic while expressing that how the right use of hearing aid helped them to communicate in a better and effective manner. Few shared experiences were “hearing aid is a part of me. It is like wearing glasses, for example.” “You do not even notice that you are wearing them. It is something natural for me.”

This session comprised of mainly two effective strategies; Visual Training and Auditory Training. Visual Training included speech reading, non speech stimuli and environmental clues. The participants were trained using speech-reading. Analytic approach was used; they were trained on individual speech sounds and progress to sounds, words, phrases, sentences.

They were asked “read lip movement of /p/, /b/, /m/, /k/, /g/, /t/, /th/, /d/, /s/, /r/, /h/ and /l/ sounds” and then asked to observe the lip movements of common used words “hello, bye, how, what, name, time.” Further the focus of the activity was shifted from word to sentence level and the participants were asked “to read sentences: hello! How are you? What is your name? What is the time now? Bye, see you again.” In Auditory training, hierarchy of skills was developed at the phoneme and word level, beginning with detection of sound or word. The individuals were given pen and papers and were demonstrated to discriminate between /p/ and /b/ sound, then randomly two sounds were spoken ten times each. The same procedure was repeated for /l/ and /d/, /k/ and /g/ sound, then words /papa/ and /mama/, /sona/ and /rona/, /lena/ and /dena/ were discriminated.
They were also made aware of the significance of body language of the speaker as well as listener factors (e.g. severity, type and onset of individual's hearing loss, the listener's ability to pay attention, emotional status and distracting body sensations or thoughts), and environmental factors (e.g. background noise, lighting conditions, visual or auditory distractions, ventilation and seating arrangements). The participants were also trained to use vision as a supplement to audition when communicating. This session lasted more than one hour i.e. around 70 to 80 minutes. The participants were given the home task to implement the auditory and visual training they received in this session for three days and were asked to report on the fourth day for the next session. The following communication strategies were also told for effective communication:

- You are having hearing loss.
- You should look at speaker face while conversing.
- Plan the conversation before and have information of the important context to have active participation in conversation.
- Don’t hide hearing loss and also hearing aids should be visible, so that people come to know about hearing loss.
- Watch the speaker even in good listening situation.
- Listen to the speaker till the end of conversation.
- Ask of repetition if some conversation part is missed.
- Hearing problem increases in presence of fan, cooler, with television on.
- Summarize the conversation to the communication partner for confirmation using situational and contextual clues.
- To be aware of recent topics to be in ease to recognize the key words and have better participation in the conversation.

**Personal Adjustment Counselling:**

**Session III: Role playing session**

This session started with the auditory revision focusing on discrimination of words like /papa/ and /mama/; /sona/ and /rona/; /lena/ and /dena/ etc. gradually shifting to lip reading for words hello, bye, how, what. The participants happily narrated the positive change which they felt after making use of the auditory and visual training received in
the previous session. Now the subjects were comfortable using hearing aid throughout the day and accepted it to be part of life.

The aim of this counselling session was to train the hearing impaired individuals work through their negative feelings about hearing loss and self worth and to enable them to accept the permanency of hearing loss (McCarthy, Culpepper, Lucks1986). Some of the main issues which were addressed during this counselling session were, “How do I prevent friends and co-workers from avoiding me?; How do I increase my self esteem?; How do I gain confidence to behave more assertively?; How do I deal with feeling isolated?; How do I deal with the anger I feel because I experience so many communication breakdowns?; How I can decrease my dependence upon others?” A cognitive approach to personal adjustment counselling aimed at modifying thought processes was used. It was based on intellectual means for addressing problems related to hearing loss. Faulty thought processes were assumed to cause self image difficulties. The trainer applied logic to direct and indirect individual’s thoughts, belief systems, perceptions, values, ideas and opinions. The goal was to eliminate cognitive distortions and arbitrary assumptions and to replace them with positive thoughts and positive perspectives to regain their positive self image. The techniques that were used in cognitive approaches include questioning, interpreting, goal setting and assignment.

Assignment was:

One person amongst participants acted as listener and other as speaker. Speaker was instructed to tell the listener about purchase of hearing aid and explain to this person the benefit and limitations perceived by hearing aid use.

2) **Psychosocial Support Channels:** This stage comprised of four sessions aimed at providing a problem solving framework for psychosocial support as well as to enhance existing network ties and developing new social network linkages. Social support was categorized into four broad types of supportive behaviours or acts:

a) **Emotional support** involved the provision of empathy, love, trust, and caring.

b) **Instrumental supports** involved the provision of tangible aid and services that directly assist a person in need.

c) **Informational support** was the provision of advice, suggestionssss and information that a person can use to address problems.
d) **Appraisal support** involved the provision of information that is useful for self-evaluation purposes—in other words, constructive feedback and affirmation.

A problem solving framework focused on Carkhuff (1965) goals of helping was adopted for psychosocial support to address the above mentioned support systems. This framework consisted of three stages:

- Problem Identification stage
- Problem Exploration stage
- Problem Resolution stage

**Session IV: Problem Identification**

Session started with the feedback of previous session and it was found that individuals started gaining self respect, started solving problems with optimistic approach and realized that self pity does not help a person with hearing impairment. The purpose of this session was to give an opportunity to the subjects to discuss the problems in a psychosocial support group they face in their day to day life. The objective was to establish the objective set out of the problem to make a problem manageable.

It began by asking the participants, *'What’s the worst thing about living with a hearing loss?’* The worst expressed thing expressed by them ranged from specific situations and easy to address such as inability to hear the doorbell, to more general and difficult to address responses such as depression, anger, and feeling of social isolation and helplessness. The questions were asked that lead the individuals to state their problems. They were asked “What are the specific aspects that are causing their communication difficult?” then further exploration by asking them the components of self, their family, and their environment that were creating the communication difficulties and concomitant problems. They were further asked “Who thinks you have hearing problem?” “What are the barriers in the environment making communication difficult?” Subjects’ problems and information were repeated to gain confirmation and giving them opportunity to expand their information. Then they were asked “Are there any other times when you think you may have missed the conversation?”

The interaction revealed some common concerns of the participants. Most of them said that they can hear sounds but unable to understand it, face problems while conversing on phone, expressed lack of acceptance of hearing loss, saying “speaker
doesn’t say words clearly, I have no problem in hearing....”, lack of motivation of assistance, majority of them said “we are at highest position in offices, we need no assistance for any problem or we are best problem solvers in our society and home, we don’t need assistance....”. Some subjects showed cosmetic concern as hearing aids are not well accepted in the society and perceived as a social stigma. They don’t want to use hearing aid because their children are of marriageable age and use of hearing aids might be a hindrance in settling them. They had the belief that wearing of the hearing aid will elicit negative view from observers. There are other several difficulties faced by ineffective communication by hearing impaired resulting in their becoming emotionally upset or withdrawing from the situation, bluffing, tensing up, dominating conversations or tuning out. Majority of them expressed difficulty in accepting hearing loss; difficulty in adjusting to the disruption in communication abilities at home, work or in social situations and also in coping with stress. Furthermore, they also had little information about hearing aids and fitting procedures.

The main problem identified by majority of the participants was communication problem with their spouses. Solutions were generated to meet this objective. They were asked to sit together in a quiet place before dinner, turn off the television for 30 minutes and refuse to take phone calls during this time. The stress was another common problem identified in their responses. The participants were made aware of ways of managing stress and practice relaxation techniques. The time duration of this session was 80 to 90 minutes.

Session V: Problem Exploration

The session started with the participant’s feedback. The participants were now feeling more involved and connected because they felt the change in the communication with their family members, especially with their spouse. After brief revision of identified problems, the problems were explored in more depth. Through self-understanding, the subjects were provided assistance in realizing the cause of experiencing their specific communication difficulties. The group focused on the personal and social impact of hearing loss. The social realities of hearing loss, the impact on the conversational partner and the difficulty of seeking accommodation from others were addressed. During this exploration stage, the participants realized that they are unable to manage their communication problems effectively because they do not want to draw attention
to their hearing loss, they are fearful of other’s reactions and they want to take the easiest course of action. To overcome their fear, the activities were introduced based on Creating Scenarios and Compiling Self Profiles.

**In creating scenarios**, a hypothetical situation was described: I’m inviting you to my party. There will be lots of people out there. The party will be at night. Some great music will also be there. What would keep you from joining us? Some common responses were, “I won’t be able to speechread anymore”; “The music will be too loud to hear anything”; “No one talk to me because I’m hard of hearing”; and “I just stand off by myself”. As they spoke about their reasons for avoiding social situations, they were given suggestions on these issues as “to come to the party early and get familiar with the environment in light. Get position for yourself where some light is there and on the back there is either window or door to reduce the noise level from one side, socialise with as many individuals as possible before music starts.”

**In compiling a self profile**, the participants were asked to describe themselves to each other. This enabled them pairing off and taking turns talking to one another. This session lasted for 70 to 80 minutes.

**Session VI: Problem Resolution**

The hypothetical situations and compiling self profile created in the previous session helped the participants to get insight into the real cause of their problems. In this session their morale was up and they were keen to move on the next session to get resolution to their self identified problems. It involved step by step process for problem solving. First, the participants were asked to set an objective and define a desired outcome. In next step, they were asked to identify possible solutions. For each possible solution, the implication of using it was discussed. The last step was to select a solution and try it out. Finally the benefits of applying the selected solution were discussed, as well as the factors that facilitated or hindered its implementation. The subject had the firm idea of his course of action that hearing aid to be used on regular basis at home and work place. Use of hearing aid using visual cues and proper sitting arrangement was demonstrated using semi circular sitting plan with proper lighting above speaker face. Thus, new skills were incorporated so that individuals were able to identify potential problems and solutions on their own. This session took 60 minutes.
**Session VII: Social interaction**

Initially experiences of problem solving situations were discussed. Now they had successful social interactions. They were more enthusiastic and motivated to accept new challenges. They have started feeling good about themselves and confident to take new challenges. They have started informing others of their hearing loss, so they are aware of it and not make the wrong judgment about them or their abilities. They were found in healthy spirits to even seek help from others in difficult to handle situations. The aim of present session was to tap the unused potential in form of existing ties and to build up the new ties also. Session took 50 minutes.

**Enhancing Existing Network Ties:** Existing network ties often offer much untapped potential, so intervention was aimed at enhancing existing ties and an attempt was made to change the attitudes and behaviours of the support recipient, the support provider or both. This included activities to build skills for effective support mobilization, provision and receipt. They were trained to focus on enhancing the quality of social ties in order to address specific health issues or to provide support across many different situations. *The individuals were asked to make list of ten close friends with whom they share their problems in life. Then they were asked to share about their hearing loss, hearing aid use and their experiences with hearing aid.*

**Developing New Social Network Linkages:** Intervention was designed to develop new social network linkages to alleviate chronic social isolation. Mentors or advisers, people who have already coped with the situation being experienced by the focal individual, were introduced. *Participants were introduced with new social network of people having hearing loss and using hearing aid. This included new members of the same session and people who have already used hearing aid and cope up with communication challenges. This involved sharing their problems having common platform of hearing loss.*

**Session VIII: A short tutorial on communication strategies for Family Members**

This session was arranged for the family members to improve their social support system. A short tutorial about communication strategies was presented for frequent communication partners based on the acronym SPEECH. They were advised and trained to provide support in the following ways:
• **Spotlight** your face and keep it visible. Keep your hands away from your mouth so that the affected person can get all the visual cues possible. Be sure to face the speaker when you are talking and be at a good distance (5-10 feet). Avoid chewing gum, cigarettes and other facial distracters when possible. And be sure not to talk from another room and expect to be heard.

• **Pause** slightly between content portions of sentences. Slow exaggerated speech is as difficult to understand as fast speech. Speech at moderate pace with slight pause between sentences and phrases can allow the affected person to process the information in chunks.

• **Empathize** and be patient with hearing impaired person. Try plugging both ears and listen for a short while to something soft that you want to hear in a noisy environment.

• **Ease** their listening. Get the listener’s attention before you speak and make sure you are being helpful in the way you speak. Ask how you can facilitate communication. The listener may want you to speak more loudly or more softly, more slowly or faster or announce the subject of discussion or the signals when the topic of the conversation shifts. Be compliant and helpful and encourage the listener to give you feedback so you can make it as easy as possible for the affected person.

• **Control** the circumstances and the listening conditions in the environment. Maximize communication by getting closer to the person. Move away from background noises. Avoid dark restaurants and windows behind you that blind someone watching you.

• **Have** a plan. When anticipate difficult listening situations, set strategies for communication in advance and implement them as necessary e.g. at a restaurant, you communicate with the wait staff instead of having your hard of hearing person do so.

  Melodrama was arranged after giving these instructions including volunteers from the participant's family members as follow:

  Speaker sat at a place where light fall on his face at a distance of 5 -10 feet from the listener avoiding facial distracters.

  **Speaker said:** “papppppa come……… (pause) dinner is ready.”

  **Listener:** ok

  **Speaker said:** touching him said “can you hear me.”
Listener said: “voice is too soft to hear”
Speaker said: Raising his voice slightly…“now can you hear me?”
Listener said: “yes, now its fine.”
Speaker said: “I went to the market to get fruits.”
Listener said: “kuan se fruits le kar aaye?”
Speaker said: “kela, aam, tarbooj”
The whole process in this session took more than an hour i.e. 70-80 minutes.

Session IX : Administration of dependent measures

This last session was conducted mainly for assessment, to see the effect of intervention on dependent measures. General interaction was held to get feedback. The feedback reflected the success of the intervention. The participants were not showing the signs of helplessness. It was felt that all the participants were more confident and cheerful and were ready to take up the challenge of life. They were looking forward to social interactions. They were very self-sufficient person, self-confident and with clear goals in life, but like anyone else, were aware that if they need help they must ask for it. At the end, the following tasks were performed:

Open discussion was done to discuss the problems faced while practically applying the training skills which included new tip as using written clues about change of topic of conversation in gathering. Increase of interaction among hearing impaired hearing aid users and sharing their demanding situations in life. Thanks giving note to all for participation. All participants were advised regular follow ups every month. Finally, administration of all dependent measures was done.

It was concluded that participants were wearing hearing aids as part of their life and felt that they are in comfort zone with their hearing aids. They have started taking active participation in different situations with optimistic approach. They have started accepting their hearing loss and made other people aware about their experiences and positive change in their life after this intervention program. Now they have become active member of the society.

Tools Used:

Friendship scale for social isolation: (Hawthorne, 1996)
LH scale for learned helplessness: (Verma et al., 1988)
WHOQOL-Bref for Quality of life: (WHOQOL, 1998)

Results & Discussion

Findings of this Part of present study are presented in Table 1
Table 1: Means, SD and t-test for pre and post scores on Perceived Social Isolation, Learned Helplessness and Quality of life

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-intervention</th>
<th>Post-intervention</th>
<th>t-values</th>
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<td>Means</td>
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<td>Perceived Social Isolation</td>
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<td>Learned Helplessness</td>
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Table 1 depicts that post intervention mean scores on scales of Perceived Social Isolation and Learned Helplessness are less as compared to pre intervention scores. Significant difference is shown between pre and post scores on Perceived Social Isolation (t = 31.46**, p < .01) and Learned Helplessness (t = 35.32**, p < .01). The difference between pre & post scores on physical (t= 25.86**, p < .01), psychological (t=23.25**, p < .01), social (t=25.28**, p < .01) and environmental domains (t=22.03**, p < .01) of quality of life came out to be extremely statistically significant.

Findings highlighted the success and significance of aural rehabilitation programme in enhancing the quality of life of hearing impaired by reducing their social isolation and learned helplessness. All the three hypotheses of the study were proved. The differences between pre and post scores on all the dependent variables have been
found to be statistically significant which implies that the proactive and prospective strategy of aural rehabilitation programme has improved their quality of life.

Rehabilitation programme provided opportunities to the participants to express feelings and thoughts proved to be beneficial which increased the conversational fluency of the participants at home, workplace and community. Inadequate communication strategies and poor accommodation to hearing loss were associated with perceived social isolation and learned helplessness but the use of hearing aids played a role in presence and improvement of psychosocial functioning among hearing loss persons.

Although the provision of a hearing aid alone produced some reduction in the handicap, a much greater reduction was achieved after provided personal adjustment counselling to them. This enabled them to curb their helplessness as well as the feeling of loneliness. Research has shown that when training is provided on auditory and visual training along with counselling, the affected people are less likely to show the symptoms of depression and low self efficacy (Norhtern & Beyer, 1999). Reduction in anxiety and tension though effective counselling methods, however, may be a major factor in improved communication (Alpiner, 1971). The results can be explained in the framework of Hicks & Pfau (1979) findings who reported that 99% of information acquired through the sensory modalities comes from audition and vision. Although a great deal of information regarding the integration of the senses remains to be discovered, the interaction of the auditory and visual systems is non-additive: that is, speech perception ability is better via two senses in combination than by presentation through the auditory channel or the visual channel alone (Ewertson and Nielsen, 1971).

Goodrich (1971) also studied the integration of audition and vision. In this complementary relationship between the senses, visual clues provide information for speech development and recognition not received through audition while audition provides information not perceived through vision (Whitehurst, 1964). Siegenthaler and Gruber (1969) also reported that the effectiveness of either auditory or visual stimuli is improved with the use of other. Improvement in communication via the combined approach has been reported by Steele, Binne, and Cooper (1978). Harless and McConell (1982) demonstrated that older adults with hearing aids possessed a better self concept than those who did not wear hearing aids.
It can be concluded that people with hearing loss were benefited from a comprehensive type of rehabilitation programme which focused on the counselling for them and their family members. Counselling combined with hearing aids resulted in better quality of life by reducing their isolation and helplessness.

References:


