

Adult Who Have Hearing Loss

Chapter 10



- ✿ **Who and Where?**
- ✿ Any successful aural rehabilitation plan must be founded on patient orientation.
- ✿ A **patient** orientation vs. a **sales** orientation
- ✿ A **patient orientation** to rehabilitation **designs** and **delivers** rehabilitation services based on the patient's background, current status, needs, and wants (the most successful aural rehabilitation program)
- ✿ A **sales orientation** to rehabilitation emphasizes telling or persuading patients that they need certain AR services, interventions, and listening devices. (competition)

- ✦ Certain AR offerings may be more appropriate for some persons than for others.
- ✦ A person who has **minimal residual hearing** may not receive auditory training, but rather, **communication strategies** and **speechreading** training.
- ✦ An individual with **mild HL** may receive only a **hearing aid + counselling**.
- ✦ Pt. **satisfaction** is the important outcome.
- ✦ **Satisfaction** —> ensures continued **compliance** with the plan
—> **positive word of mouth** publicity for ur services
(Marketing)

Hearing Loss Among Adults

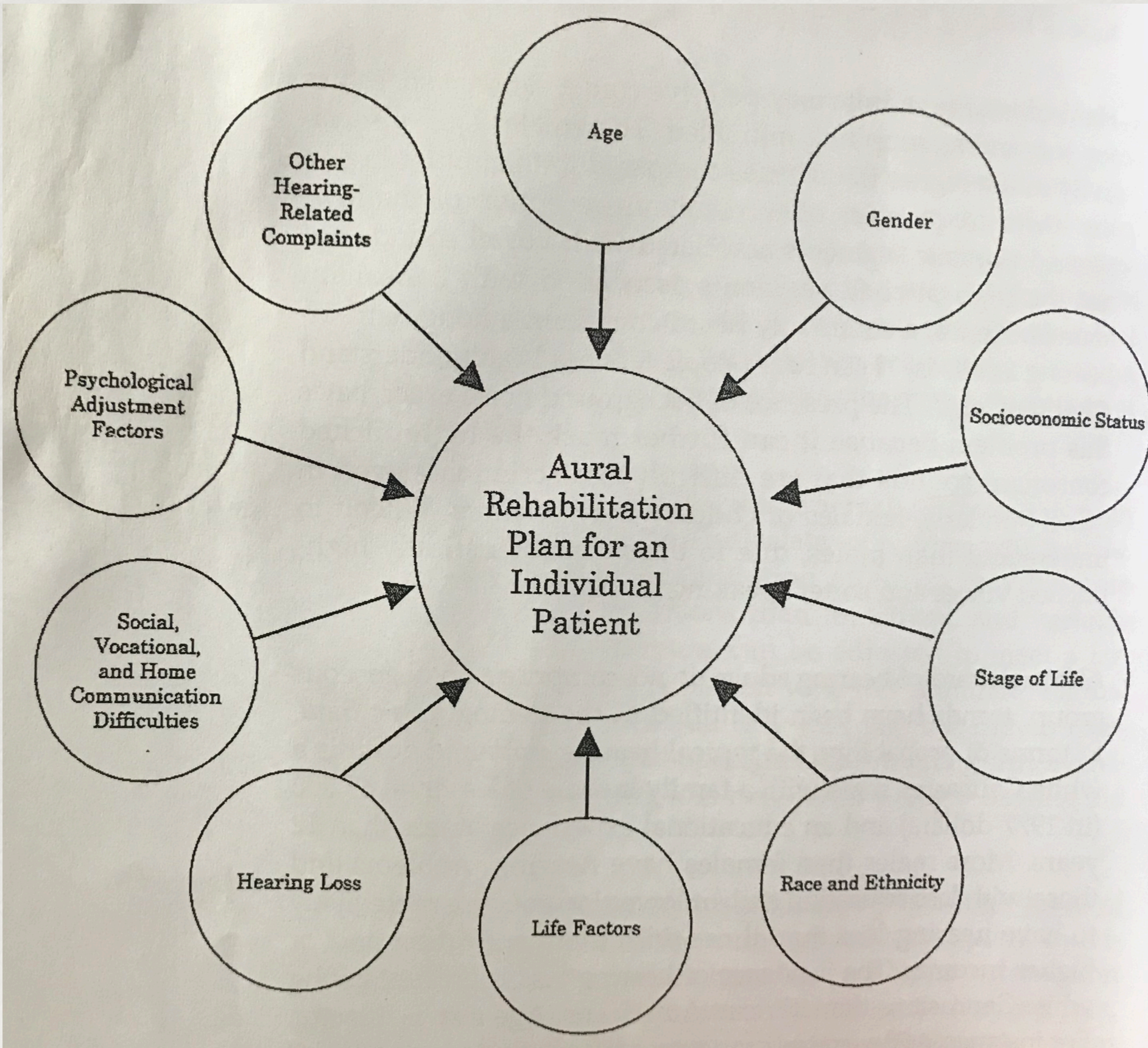
- ✦ Most **adults lose** their hearing **gradually** over time.
- ✦ The largest segment of the hard-of-hearing adult population has **mild** or **moderate SNHL**.
- ✦ Lower frequencies **thresholds** are **higher** than those for the mid and high frequencies (regardless of the age)
- ✦ Hard-of-hearing adults may receive conv. speech as **too soft** and as sounding **mumbled**.
- ✦ The **greater loss** of sensitivity in higher frequencies vs **milder loss** on lower frequencies —> **reception** of **low pitched** segment (vowel sound) but not the high-pitched segments (consonant sounds)
- ✦ Females or children may be more difficult to understand than males (high pitched voices and soft speaking levels).

Who Is This Person?

✦ Consider non-hearing -related variables that **affect** the impact of HL:

- Stage of life
- Life factors
- Socioeconomic status
- Race and ethnicity
- Gender
- Psychological factors





Stage Of Life

- **Life stages** are **ranges** in which a *hearing loss* may have a *different impact. (individually)*
- Depending on their **life stage** (young adulthood, 30s, 40s,...), patients will **confront different issues**
- Where they are in life span will reflect individual concerns and AR needs
- Events associated with the stage vs. impact of HL
e.g., develop relationship with others vs. begin to reassess dreams.

Life Factors

- ✦ By adulthood must people have achieved **socialization**.
 - Established relationship with others
 - Embarked on vocation
 - Developed a personality
 - Developed personal view of the world
- ✦ **Life factors** are **conditions** that help define one's life, such as relationships, family, and vocation
- ✦ Life factors influence the ways in which people cope with the advent of HL.
- ✦ Life factors may be socially or culturally determined

Socioeconomic Status

- ✦ Socioeconomic status **can affect** the impact of HL and design of the AR plan.
- ✦ Socioeconomic classes based on a consideration of: Income, occupation, educational level, dwelling type (residence type):
 - High upper
 - Low upper
 - *High middle*
 - *Low middle*
 - High lower
 - Low lower

- ◆ Socioeconomic status affect the management of HL
 - Financial status —> **afford** binaural aids/ assistive devices
 - Educational history —> **background** knowledge about the anatomy of the ear and its possible disorders
 - Work schedule and level of employment —> **attendance** to AR classes

Race and Ethnicity

- ✦ Race and ethnicity \longleftrightarrow diversity (categories & subcultures)
- ✦ Distinctive customs, beliefs, and service preferences
- ✦ Must be considered when customizing an AR program (different counselling)
- ✦ The content of comm. strategies training program may be appropriate for some groups but not for others

Gender

- ✦ Patients' **gender** may *influence* the **content** of the aural rehabilitation program.
- ✦ **Counselling** have to be tailored to **suit** the individual concerns
- ✦ Gender can be subcategorized (e.g., **female**: homemakers vs. workers), (**workers**: clinical-technical vs. management professional)
- ✦ e.g., **homemaker**: may be interested in a baby-cry alerting assistive device vs. **business executive** may inquire group amplification systems

Psychological Factor

- ✦ Psychological responses to hearing loss may begin as **shock** and **disbelief**, followed by **depression**, then **anger** and **guilt**, and finally **acceptance**
- ✦ Psychological adjustment will influence the kind of AR services that are appropriate at any point time.
- ✦ A **milder** version of shock and disbelief —> **dissonance** theory
- ✦ **Dissonance theory** concerns situations in which one's **self-perception** does not coincide/agree with **reality**.
- ✦ Dissonance —> searching for disconfirmation of the **diagnosis** or minimizing the importance of it.

- ✦ **Denial** —> depression —> anger & guilt —> acceptance of HL
- ✦ **Depression**
 - Feeling of **isolation**
 - **self-esteem** decrease
 - Feeling of **loss**
 - Feel **disinterested** all the time
- ✦ **Anger** and **guilt** are stages that sometimes follow depression in adjusting to a hearing loss. (**why me?** what did i do to deserve this?)
 - Perception of **unfairness** *and* may **protest** (But, I am too young to be going deaf)
- ✦ **Acceptance**: the final stage of adjustment to a HL in which the pt. realizes that life goes on, albeit (ولو) differently.

Where Is The Person In Term Of Adjustment to Hearing Loss?

- ✦ Consider the **time course** of HL and **where in the process** the aural rehabilitation plan **begins** to be implemented?
- ✦ Case history **questions** might be asked:
 - When do you think your HL began?
 - How did you know you had a problem?
 - What brought you here today?
- ✦ **Four *phases*** in the ***time course*** of acquired hearing loss:

Pre-HL onset —> Onset of HL —> Diagnosis —> Aural rehabilitation

Phase 1: Pre-Hearing Loss

- **HL** usually is a **surprise** and not expected (especially if no family history)
- **Normal life** pre-hearing loss, includes: personality, life factors, and socioeconomic status.

Phase 2: Onset Of HL

- ✦ Time span **between** the **onset** of hearing loss and the HL **diagnosis**.
- ✦ Undetected (especially when progressive, symmetrical and if more toward mild “ days to years”)
- ✦ Indications:
 - Turn **up TV** & radio **vol.**
 - Ask people to **repeat**
 - Not hearing **door bell** or called by names
 - **Missing** out home **conversation**
 - **Talking loudly** or ask people to talk loudly
 - Complaining about **bad telephone connections**
 - Believing that **people mumble** and not knowing where the sounds are coming from
 - Family member’s report

◆ **Interview** questions example:

- Do you frequently ask people to repeat?
- Do you feel that most people mumble?
- Do you sometimes hear sound, but can't understand what is being said?
- Do you have to work hard to hear?

◆ Usually, HL discussed with family first by H-of- H

Phase 3: Diagnosis

- ✦ Is a time when the hearing loss is identified by a professional and the extent of the problem is revealed.
- ✦ Diagnosis by family doctor vs. otolaryngologist vs. audiologist
- ✦ Rapid solution might be expected (pt. thinking)
- ✦ Anxiety level **decreased** comparing to that one in phase 2?
- ✦ During DX: HL **type** & **degree** determined and **effect** explores

- Pure-tone audiogram —> speech-recognition tests.
- Self-report survey or questionnaire?
- Conduct an **interview**
- Results reflected: effect at home, work, social...
- Answering your questions —> provide info. about **the need** (comm. strategies, amplification, assistive listening devices, psychological counselling.

Interview

✦ About **home**:

- Do you live alone? with a spouse? with children?
- What are your communication demands in the home?
- Do you watch TV? Is hearing a problem?
- Do you have difficulty in detecting or identifying warning signals (e.g., doorbell, a baby's cry)?

✦ About **work**:

- Where do you work? (factory, construction, sales..)? Is it noisy, small office..?
- Do you need to use a telephone? Is hearing a problem?
- Do you need to recognize speech on a Dictaphone or a telephone answer machine?

* **Dictaphone**: A dictation machine is a sound recording device most commonly used to record speech for later playback or to be typed into print

- ◆ About **social environment**:
- ◆ Most adults enjoy groups events/ activities
 - What do you do in your free time? (go to movies, play bridge..)?
 - What kind of social situation do you avoid because of your HL?
 - Have you ever use an assistive device in public?

Phase 4: Adjustment

- ✦ Individual begin to adapt to hearing loss.
- ✦ Any or all rehabilitation services may received:
 - Counselling
 - Hearing aid(s)
 - Assistive devices
 - Formal speechreading
 - Listening
 - Comm. strategy training
- ✦ Aural rehabilitation aiming to minimizing or solving the identified comm. problems (ph. 3)

Costs (numerous costs)

- ✦ Monetary vs. Non-monetary
- ✦ **Monetary**: Transportation, wages, babysitter,..
- ✦ Non-monetary (**Psychic** costs): Costs that related to a person's psychological well-being.
 - Acceptance
 - Anxiety
 - Worry
 - Fear
 - Embarrassment

- ✦ Another costs: psychosocially & vocationally

- ✦ **Psychosocial Well-being:**

- Feelings of loneliness
- Experience decreased self-esteem
- Emotional difficulties (shame, embarrassment..)
- Feel isolated both socially & emotionally.

- ✦ **At home** vs. **outside** the home

- ✦ **Vocational status**

- Unhappy at work
- Fewer vocational opportunities
- Experience a sense of being removed from the workplace mainstream
- Find themselves the subject of disparaging (الذم , الاستخفاف) by colleagues.

Tinnitus-A Related Problem

- ✦ Tinnitus: is noise that is perceived in the ear and/or head and has no external physical source.
- ✦ Tinnitus **derivative** of the latin word *tinier* (to ring or tinkle)
- ✦ Often adult HL and individuals with normal H as well
- ✦ Prevalance:
 - 35% of general population
 - 17% of population (continuously present)
 - 85% of people with ear problems
- ✦ Tinnitus \longleftrightarrow Degree of HL
- ✦ Tinnitus \longleftrightarrow Age

✦ Common **descriptors** of tinnitus include:

- leaves rustling
 - ocean roaring
 - crickets chirping
 - a radio playing off-station
 - a siren blasting
 - a telephone ringing
- ✦ The quality of sound: crackling, pulsing, pounding, hissing, humming, musical, throbbing, whistling, popping, or whooshing.
- ✦ Sound might be perceived: R ear, L ear, both ears, or inside or outside the head

Table 10-2. Examples of causes of tinnitus.

Locus/Source	Cause
External ear	Impacted cerumen
Middle ear	Otitis media, otosclerosis, vascular anomalies, middle ear tumors
Inner ear	Ménière's disease, presbycusis, ototoxicity, circulation problems, noise-induced hearing loss
Central nervous system	Migraine, acoustic neuroma, epilepsy, tumors
Other	Allergies, emotional or mental stress, medication, noise exposure, use of a hearing aid, physical work, lack of sleep

Source: Adapted from Stouffer, J. L., and Tyler, R. S. (1990). Characterization of tinnitus patients. *Journal of Speech and Hearing Disorders*, 55, 439-453.

- ✦ Certain conditions or medications can **exacerbate** a tinnitus problem. (taking aspirin)
- ✦ Tinnitus is **a minor annoyance** for some people
- ✦ But is **debilitating**, cause of frustration, depression, hopelessness, and thoughts of suicide.
- ✦ Can result in:
 - An inability to concentrate
 - Increased difficulty in listening (can mask the speech signal)
 - loss of sleep

- ✦ Tinnitus can't be measured objectively.
- ✦ To obtain inf. :
 - Pt.'s **interviews** and **questionnaires** (open-ended questions)

Some questionnaires include quantifiable items like:

Location: Is it in the left ear, right ear, both?

Pitch: Is it high pitched or low pitched?

Constancy: Is the tinnitus always present? intermittent? Do you tend to notice it at a particular time day?

Composition: Do you hear one sound or more than one sound?

Fluctuations: Does it changed from one sound to another? Does it change in pitch?

Loudness: Is it loud or soft?

Condition that exacerbate the tinnitus: What? (drinking coffee, smoking)?

Annoyance: (not at all annoying, extremely annoying, somewhere in between)?

Effects in concentration and sleep: (slight effect vs. extreme effect)?

Depression: (minimal depression vs. extreme depression)?

- Many treatments for tinnitus have not been effective
- Treatments include:
 - Masking the tinnitus with an auditory signal
 - Electrical stimulation
 - Relaxation therapy and biofeedback
 - acupuncture
 - Counseling
 - Pharmacological intervention
- New approach (neurophysiological approach):
 - Pts. listen to broadband white noise for approximately 6 hours/day for 12-18 months —> habituate themselves to the phantom signal.
 - Eventually, they do not attend to it, nor experience an emotional reaction, even though the tinnitus may still be present.
 - There is some evidence that this treatment works for some pts.



Deaf Adults



- Hard-of-hearing: Adults who lost their hearing after acquiring speech and language.
- Deaf Adults: Adults who acquired their losses before learning language and speech
- Deafness: Disability vs. **culture**?
 - Hearing people surprised to learn that *deaf* parents in neonatal wards, cheer when they are told their babies cannot hear
 - Deaf culture families see any effort to teach the deaf to speak as repugnant (بغیض)



Deaf Culture



- A subculture that shares a common language (American Sign Language ASL), beliefs, customs, arts, history, and folklore, primarily composed of individuals who have *prelingual* deafness.
- **D** individuals become acculturated by means of educational experiences and social interactions.
- They usually attended schools/classrooms for the deaf
- As **D** adults, they interact with deaf groups (religious gatherings or sports
- Must deaf individuals marry a **D** spouse

Deaf and Hard-of-Hearing Adults

- Members of **D** culture have different problems than hard-of-hearing individuals.
 - Have limited or non-existent speech production skills
 - Their voice may sound strained and harsh.
 - May be academically delayed (less than 4th grade reading level)
 - Certain professions —> offered limited opportunity for professional growth.
 - They can communicate with fellow signers
 - They have comfortable companionship with their family and require no extraordinary patience or accommodation
 - They are free of many of the anxieties associated with attempts to function in hearing world.

Professional Services for Deaf Adults

- They may not seek hearing tests
- They may not use hearing aids
- They may not be interested in communication training
- **Professional services** they may utilize include:
 - Sign interpreting
 - Notetaking
 - Provision of assistive devices
 - Academic and vocational counselling
- ***D person who use speech*** may desire additional services:
 - Speech and voice training
 - Communication strategies training