HEARING LOSS AND HEARING AMPLIFICATION - AN IMPORTANT ETIOLOGICAL FACTOR IN THE ASSESSMENT OF MENTAL DISORDERS

Ninoslava Dragutinović¹
Fadilj Eminović²

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Summary

Listening is an important factor in cognitive maturation and development of speech as the most complex and most perfect symbol system in human communication. The hearing disorder in any period of life will have a significant impact on the overall personality development and can lead to disorders of mental functions.

More or less severe hearing loss makes hearing-voice communication difficult, in cases when other treatment options have been exhausted (medicaments, surgical or combined) requires auditory amplification ie. The use of hearing aids. Audiologic and psychiatric diagnosis imposes a problem for observation of the hearing disability that are often disguised as a clinical picture of depression, anxiety, paranoia, mental and behavioral disorders which require team work of experts and education of doctors of all specialties.

Besides the audiologic diagnostics application of the questionnaire Hearing Handicap Inventory (HHI) and the Tinnitus Handicap Inventory (THI) will allow Grading of hearing disabilities, emotional and social assessment of hearing loss as well as the real need for hearing rehabilitation. The existence of auditory handicap runs defense mechanisms aimed at maintaining self-esteem, which affects the formation of a special person with depleted identity that is characterized by: suspicion, distrust, limited control, egorigidity and impulsivity. Depression and anxiety are most often reactions to hearing handicap. Application of Beck’s Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) scales to assess depressive and anxiety features according to ICD-10 can significantly affect the early detection of these two disorders in persons with impaired hearing. The absence of sound has changed the perceptual reality there is insufficient emotional stimulation which gradually changes the personality of a person with hearing loss in terms of expression of psychological changes, changes in personality and behavior. The degree of change is correlated with age, indicating the need for hearing amplification with the aim of timely socialization, adaptation and integration into the social system.

Given the social aspect of the problem as a primary source of difficulty, boundaries extend between the professions involved in team activities of perception and care for people with hearing loss and deafness.

Keywords: hearing loss, hearing amplification, mental disorders

¹ Specialist clinic for ear, nose and throat, "Dr. Dragutinovic", Belgrade
² Faculty for Special Education and Rehabilitation, University of Belgrade
INTRODUCTION

Listening is an important factor in cognitive maturation and development of speech as the most complex and most perfect symbol system in human communication. Hearing is one of the most important roles in adjusting of a man to the external environment. A hearing disorder in any period of life will have a significant impact on the overall personality development and can lead to impairment of mental functions. All aspects of human behavior are controlled by the brain i.e. The central nervous system whose integrative function and plasticity allows harmonious functioning.

The appearance of hearing loss is a medical and social problem in our and developed countries due to the constant increase in the number of deaf and persons with hearing loss. Therefore, early diagnosis of hearing impairment, adequate treatment and rehabilitation to reduce disability, preserving quality of life and prevention of mental disorders is necessary. Normal hearing is prerequisite for proper psychosocial development, but it's loss in life undoubtedly leads to disorders of cognitive functioning, emotional and social status [1].

In the etiology of hearing loss numerous factors are represented: pathological conditions of all structures of the ear, hereditary, cerebrovascular and autoimmune disorders, temporal bone trauma, tumors of posterior fossa and epipharynx, the impact of noise, ototoxic drugs, etc.

Hearing impairment is often accompanied by unpleasant symptoms of tinnitus, abnormal noise (phantom sensation) in the ears (and mind) in the absence of external sound sources. This disrupts speech intelligibility in the presence of the current decline of hearing and undoubtedly affects the psycho-social life and leads to anxiety and depression, irritability with a negative impact on quality of life of the sufferer [2].

A normal psychological development and it's disorders are the result of mutual action of complex biological, psychological and social factors. More or less severe hearing loss makes hearing-voice communication difficult, in cases when other treatment options have been exhausted (medicamentous, surgical or combined) requires auditory amplification i.e. The use of hearing aids. Favorable results are achieved by hearing rehabilitation when the patient's speech discrimination score is better depending on: reduced audibility, distortion of sound energy due to hearing loss in high frequencies, the weakened central processing auditory signals and impaired cognitive function of patients [3].

The acceptance of hearing amplification and successful rehabilitation of hearing and speech are influenced by: age, general physical and mental health, cognition, motivation, financial capacity, aesthetic factors and patient’s need for communication. An important moment for successful hearing aids is stigmatization. Prejudices associated with the use of hearing amplifiers, insufficient information of patients about the possibilities of hearing aids, lack of understanding of society, prevention of work opportunities, discrimination and exclusion from the community are often the reason for delayed
treatment that eventually due to the reduction of self-esteem and desocialization leads a hearing handicapped person into a mental disorder.

Audiologic and psychiatric diagnosis imposes problems for observation of the hearing disability that are often disguised as a clinical picture of depression, anxiety, paranoia, mental and behavioral disorders which require team work of experts and education of doctors of all specialties.

**TYPES OF HEARING IMPAIRMENT**

Exterior and middle ear conduct and transform sound, so that changes in the external auditory canal and ear-drum, the processes in the middle ear (chronic inflammation, otosclerosis, and timpanosclerosis) lead to conductive hearing damage. The damage can be corrected by medicamentous, surgery or reconstructive auditory amplification.

Sensorineural hearing loss is a dysfunction of the nerve cochlea or the auditory nerve. The causes of cochlear hearing loss can be genetic, infectious, toxic, autoimmune, injury, age, and in retrocochlear hearing loss should be excluded the existence of the last cranial pits tumors (cerebellaropontine angle tumors) or the process of demyelination (multiple sclerosis).

If there is conductive and sensorineural hearing loss it is a mixed type [4].

According to localization, hearing loss can be unilateral or bilateral, unilateral hearing loss and deafness besides the audiologic tests requires a neuroradiological diagnostics test – computerized tomography (CT), magnetic resonance imaging (MRI), auditory brainstem potentials (BERA), which will further refine the therapeutic approach [5].

The degree of hearing loss is rated according to the average threshold at 500, 1000, 2000, 4000 Hz of tonal audiogram. A minor hearing reduction is (20-40dB). Depending on the patient’s needs hearing is useful for communication. Difficulties are present in hearing and understanding quiet speech and speech in a noisy environment. Moderately severe hearing loss is (45-65dB). Listening is hard and maintaining attention is difficult, with possible mistakes in articulating speech. With a correct choice of hearing aid amplification gives good results. Severe hearing loss is (70-85dB). There is no auditory communication without a device; the previous development of speech without hearing correction revokes in time. Very severe hearing loss is (90dB and more). The amplifier increases external sounds only as a warning signal and contributes to better lipreading. The success of the rehabilitation depends on the person’s age, mental status in time when the amplification begun. In case of this serious hearing loss installation of cochlear implant is indicated [6].

About 90% of users of hearing aids have a sensorineural hearing loss of moderate and severe degree. Hearing threshold was raised while the pain threshold for strong stimuli was at a lower level than in those of normal hearing. Therefore there is a very little dynamic range of intensity which represents a problem in selecting the proper hearing amplifier. To hear sound signals, they must be strengthened but that amplification seems very uncomfortable, whi-
le at the transmission of sound energy distortion occurs which makes audible sounds incomprehensible.

Therefore, individuals with severe sensorineural hearing loss hardly accept hearing aids which eventually lead to desocialization, loss of self-esteem and expression of mental and behavioral disorders. The view of neurootologic disorders follows certain diseases of the central and peripheral nervous system as a guide to linking test results with the clinical picture and dynamics of development of certain signs and symptoms of particular disease or syndromes.

**Presbycusis (presbyacusis)**

Hearing impairment that is caused by physiological "aging" of the inner ear sensory cells leads to a gradual mutual hearing loss. Because of the long period during which hearing loss or deafness develops, and patient’s gradual adaptation to the hearing loss, hearing correction was performed mainly when social contacts were significantly affected.

**Sudden sensorineural hearing loss**

Emergency medical, audiometric problem represents sudden hearing loss in otherwise healthy individuals without known ear disease or other apparent cause. It doesn’t represent a separate clinical entity but may be due to various etiopathogenetic factors:

- Infection / Inflammation: cochleitis virus (in 60% of cases caused by the rubella virus, parotita, cytomegalovirus, varicella-zoster virus), meningococcal meningitis, encephalitis, toxoplasmosis;
- Neoplasms: cerebellopontine angle: neurinoma vestibulocochlear nerve meningioma, epidermoids, paraganglioma, arachnoid cysts, hemangiomas, metastatic tumors (lung, breast, prostate, oropharynx, melanoma of the skin) [7].
- Vascular factors: hemoreologic (blood hypercoagulaibility, increased platelet aggregation, increased blood viscosity, reduced filterability of blood, polycythemia vera), atherosclerosis, metabolic disorders (hiperlipidemia, diabetes mellitus); hemodynamic disorders (hypo / hipertensia, heart disease), cochlear blood vasospasm courts (with hypotension and vegetative stigmatized)
- Anterior Inferior Cerebellar Aneurysm Artery (AICA) and microembolism cochlear artery thrombosis [8];
- Trauma (barotrauma, blast trauma, a sudden increase in Menier’s disease hydrops);
- Ototoxic drugs: aminoglycosides, furosemide (diuretic), anti-neoplastics;
- Autoimmune diseases: lupus erythematoses, ulcerative colitis, polyarteritis nodosa, Wegener granulomatosis;
- Endocrine disorders: hypothyroidismus, diabetes mellitus;
- Neurological disorders: unilaterial hearing loss in multiple sclerosis is generally recovered over several months with remission of the disease.
Idiopathic sudden sensorineural hearing loss

Idiopathic sudden hearing loss is usually unilateral (97% of patients), followed by tinnitus (70%), and often vertigo (30%). Microcirculation of the inner ear consists of the terminal branches without anastomosis, placed in a massive bone labyrinth which limits "broaching" of the elastic, deformable red blood cells. The impact of viral load in blood vessels and elements leads to swelling of the endothelial and slowing of the circulation, while the damaged blood elements agglutination, it comes to hypercoagulability and ischemia-causing damage to ciliar cells sensitive to lack of oxygen. Sudden severe hearing loss accompanied by severe tinnitus can lead to psychological problems that require professional psychiatric treatment [6].

Meniere's disease

Meniere's disease is an idiopathic endolymphatic hydrops. Endolymphatic hydrops may develop due to inflammatory, metabolic, congenital disorder, after trauma, pathological processes that induce temporal bone, or as part of systemic diseases such as diabetes and autoimmune disorders. Inner ear dysfunction is accompanied by episodic symptoms: vertigo, fluctuating hearing loss, tinnitus and a feeling of fullness in the ear. In the advanced stage of the disease sensorineural hearing loss is present, while often accompanied by vertigo or disorientation "otolithus crises", ie. Sudden drop in the patient’s general condition affects self-confidence, daily activities and causes gradual isolation from society. Numerous studies indicate that patients with Meniere's disease in response to illness (suddenes of the attack, with each attack symptoms are more pronounced, limitations in work and social contacts) have more psychological problems (anxiety, depression) than the general population [9].

Ototoxicosis

Almost all aminoglycosides deplete cochlear functions (dyhidrostrepromycin, kanaycin, neomycin, and amikacin), neotoxic drugs (cisplatin), salicylates (aspirin), erythromycin, cephalaxin, phenilbutason, sulfonamides, quinine, heavy metals (mercury, lead). Damage of the sensory cells in the inner ear and spiral ganglion cells is the primary place of ototoxicity of aminoglycosides. The dynamics of hearing loss depends on the individual hypersensitivity (impaired renal function, hyperthermia, concomitant use of other ototoxic drugs), dosage (total dose of received medication) and age of the patient.

Hereditary hearing loss

Hereditary hearing loss can be a part of syndromic (associated with abnormalities of skeletal muscle, vision, endocrine system, central nervous system, pigmentation, etc.) and nonsyndromic disorders (70% of hereditary hearing loss is related nonsyndromic to the differentiated location of genes selected from the DFN – DeaFNess) [10].
Genetic diagnosis represents a psychological blow to the personality of the patient significantly more than other etiology, as a compromised way of life, the possibility of treatment and the cause of the inability to adapt to situations. Regular access of experts could significantly affect the patient's attitude toward the disease and direct it toward a proper adaptation, education and socialization, reducing the possibility of manifestation of mental disorder.

**Auditory neuropathy**

Auditory neuropathy represents a hearing loss due to damaged transmission of biological signals of the auditory nerve to the auditory centers in the brain. Hearing loss can be of various degrees, with markedly reduced understandability of speech, auditory discrimination disorder, auditory performances and temporal aspect of listening. Hearing aids or cochlear implants with active rehabilitation can help in speech development, preservation of cognitive skills with the ability to adapt in society.

**Autoimmune inner ear disease**

Autoimmune inner ear disease usually occurs within the immune system of other conditions such as: polyarthritis nodosa, Cogan’s syndrome, systemic lupus erythematosus, Wegener’s granulomatosis, and ulcerative colitis). It is bealived that endolymphatic sakus is the key structure for immunoregulation in the inner ear as it can gather and synthesize antibodies (IgG, IgA, plasma cells) [11].

**Reduced tolerance of sound**

Manifested in the forms: hyperacusis (abnormal strong reaction to the sound of moderate intensity which is due to alterations in central processing of acoustic paths), misophonia (aversion to sound due to abnormally strong reactions in the limbic-emotional system and the autonomic nervous system), phonophobia (a morbid fear of sound, can lead to hyperacusis due to changes in central processing and permanent abnormal perception ie. experience of the volume)[12]. Hypersensitivity is often accompanied by irritational fear, changes in emotional status, fluctuations in mood or anxiety requiring psychiatric treatment. Disorders of reduced tolerance of sound are frequent in psychiatric clinical work as mental disorder symptoms (paranoia, schizophrenia).

**Auditory disorders in cerebrovascular diseases**

Hearing loss is an infrequent symptom of brain stem stroke in comparison to vertigo, because of the greater elasticity and resistance of the auditory system, which includes crossed and not crossed roads with abundant circulation or due to the resistance of the ear to circulation disorders. A common symptom of cerebrovascular diseases depending on the localization of lesions in the brainstem is tinnitus (damage to the thalamus, inferior colliculus, the amygdala, and hippocampus). Tinnitus is a disorder of auditory perception because of an altered state of excitation and inhibition.
at the level of neural networks, which leads to imbalance in neuronal signaling. The limbic system (involved in emotions) and autonomous systems (which control all functions of the body and trigger a role in the "flight to flight" reactions) are important in each case with severe tinnitus [13].

**Auditory disorders in diabetes**

Diabetes in its chronic course can develop late complications which are based on the microvascular changes. The damage is bilateral sensorineural hearing loss which predominantly seizing high-frequency tones and is characterized by the gradual emergence and progression. Numerous studies have shown the link between diabetes and hearing loss due to cochlear apparatus dysfunction which is independent of the degree of metabolic control and presence of microvascular complications [14]. Since the quality of life for patients with diabetes is significantly reduced by the presence of other clinical microvascular complications, hearing loss expressed in any measure undoubtedly leads to disturbance of mental status and stigmatization.

**Auditory deficits in multiple sclerosis (MS)**

Multiple sclerosis is an autoimmune disorder that affects the nervous system and it is the leading cause of neurological disability in young people. Although hearing loss is present in about 10% of patients, present auditory fatigue (rekrutman), raiseds treshold of stapedial reflex on the damaged side. Damaged speech discrimination is to a greater extent than the tonal audiometry can be assumed to be important in establishing the diagnosis. BER-A is a technique that allows the detection of clinically hidden lesions in patients who are suspected to have MS, but where no neurological data on the existence of multiple lesions exists.

**Tumors of the posterior fossa**

Cerebelaropontine angle tumors (PCU) are neoplasms of the skull and cover the back skull pit. 90% of all PCU tumors consist of neurinoma, vestibulocochlear nerve, while a smaller percentage represents meningioma, ependymoma, lipomas, hemangiomas, cholesteatoma, facial nerve schwannomas, etc. Vestibulocochlear nerve neurinoma ie. Acusticus neurinoma generates by profilation of Schwann’s cells in vestibular nerve branches, close to myelin – the nerve glial compound, close to porus acusticus, where Schwann’s cells are scattered, which represents "vulnerable" place for the development of this tumor. It is a benign tumor with malignant growth in the surrounding structure, which is an early symptom of unilateral hearing loss mostly in the high frequencies, disproportionately damaging speech discrimination and tinnitus [15].

**Noise-induced hearing loss**

Noise is an acoustic energy that has a detrimental effect on physiological and psychological human health. In ad-
dition to hearing loss that is often accompanied by tinnitus and reduced speech intelligibility, noise interferes with normal human activity, speech collusion, learning, concentration and other mental activities. Noise causes moodiness, irritability, restlessness, fatigue, sleep disturbance. The mechanical energy of sound stimulates the secretion of stressful hormones (epinephrine and norepinephrine) whose effect on the cardiovascular system causes hypertension [16]. The effect of noise has a cumulative effect and the individual sensitivity and other co-factors (diabetes, hypo/hypertension, and neurodegenerative disease, the effect of carbon monoxide or carbon disulfide) leads to hearing loss, personality and behavior disorders and disability.

DIAGNOSIS OF HEARING DAMAGE

ENT examination, tonal audiometry, stapedial reflex tympanometry are the first guidelines in the diagnosis of hearing loss. Due to the complexity of the etiological factors in order to make diagnosis requires the application of more sophisticated procedures: evoked brainstem potentials (BERA), computerized tomography (CT), magnetic resonance imaging (MRI), which will further in hearing loss perception direct therapeutic approach. Application of a simple questionnaire Hearing Handicap Inventory (HHI) and the Tinnitus Handicap Inventory (THI) will allow grading of hearing disabilities, emotional and social assessment of hearing loss and the need for the right auditory rehabilitation. Application of Beck’s Depression Inventory scale (BDI) and Beck’s Anxiety Inventory (BAI) to assess depressive and anxiety features according to ICD-10 can significantly affect the early detection of these two disorders that are now considered major predictors of decline in the quality of life.

HEARING IMPAIRMENT AND MENTAL DISORDERS

Everyday experience in working with people with hearing impairment is confirmed by the fact that in life there are more handicapped barriers that affect the psycho-social relations. The degree of damage is not essential as the individual perception of the damage. The greater the inaccuracy of individual perception, the greater the degree of frustration because the subjective phenomenological experience comes into conflict with reality and makes the process of adaptation. Unrealistic perception of the real problems arising from the damage makes it difficult to find appropriate ways to meet the dominant needs of the people with disabilities. Reactions to the handicap cover a wide range between two extremes. One is the extreme of ignoring the real problems that cause disability and which can’t be avoided, and the other is the perception of disability as a tragedy with the withdrawal and resignation as the psychological consequences of the tragedy [17]. The existence of auditory handicap runs defense mechanisms aimed at maintaining self-esteem, which affects the formation of a special
personality with depleted identity that is characterized by: suspicion, mistrust, limited control, ego rigidity and impulsivity.

Depression and anxiety are often reactions to hearing handicap. Depression, in people with hearing impairment results from reduced self-esteem especially in those lines in which their character structures are the most vulnerable followed by a reduced sense of self-confidence and shame. Depressed patients showed tendency to hypertrophying degree and as a consequences of their lack and inadequacy. Feelings of shame deepen on the feeling of guilt, self-respect becomes self-condemnation, and exaggerated expression leads to crazed distortion. Attention deficit disorders, memory disorders (depressed pseudodementia), perception (illusions, hallucinations), drive (drive reduction for living), the reduction of voluntary activities, sleep disturbance leads a hearing handicapped person into a vicious circle if measures of auditory rehabilitation and timely psychiatric treatment are not taken [18,19].

Often, suddenly occurred hearing loss followed by the presence of pathological fear can lead to the establishment of anxiety conflict (personality is not able to meet the demands of conscious or unconscious that appear in real life situations). Unresolved or incomplete resolution of the conflict eventually leads to an increase in internal tension-anxiety. The factor most frequently mentioned as crucial in the development of anxiety is fear of the future which is for people with hearing impairment uncertain, unsure, vague threats of interpersonal relations, business engagement and experience of threatening dangers associated with social exclusion. It is the fear of self-realization of man as an individual being. Hearing loss to varying degrees, often accompanied by disproportionate degree of speech intelligibility is a significant moment in the life of the patient. If hearing loss accompanies other chronic diseases that can simultaneously be the cause of hearing loss and deafness undoubtedly lead to the manifestation of psychopathological phenomena. Liaison psychiatry studies need to associate psychiatry with somatic medicine, the different behaviors of patients in a state of active disease, patient’s reaction to their own illness or condition, especially the ratio of patients to their illness (state). In accordance with a specific personality structure, a psychiatrist plans appropriate psychiatric treatment.

Hearing impairment often leads to demoralization, which can be defined as a complex of destructive attitudes and emotions, state of mind accompanied by anxiety, depressed mood, loss of self-esteem and self-confidence, a sense of hopelessness, isolation and inability to cope with the new situation. Combating demoralization involves systematic work, a common effect of all psychotherapy is reflected primarily in combating depression and anxiety, improving the overall emotional state, fighting despair, restoring the lost self-respect, in order to establish control over stressful life events and to adopt more efficient ways of confronting them [20,21].
HEARING AMPLIFICATION

Hearing impairment depending on the time when it originates has the effect of speech disorder that is bio-psycho-social function and basis for the functioning of man as a thinking being. The absence of sound has changed perceptual reality, there is insufficient stimulation gradually changing as the hearing impaired person in terms of expression of psychological changes, changes in personality and behavior. The degree of change is correlated with the age in which the necessity of hearing amplification in order to timely socialization, adaptation and integration into the social system. Therefore audiometric findings without the observation of experts, as well as counseling hearing amplification are not complete without a psychological evaluation of hearing, because there is often a large gap between the estimated and actual possibilities of examinees. Great importance for the success of auditory rehabilitation of hearing is the time elapsed since the hearing loss to conducted rehabilitation, because in relatively large time intervals we can expect increasing impoverishment of the personality, the decline in energy and interest, self-respect loss, changes in emotional and social spheres of life. In the hearing amplification process the person himself must be seen, emotional balance figures established, and then in the rehabilitation process the activate potential of the disabled person preserved which requires a professionally qualified team.

Hearing amplifier

Hearing aid is an electronic device that amplifies and modifies external sound stimulation to enable a better audio-voice communication. Technological improvement in the development and strategy of hearing aids (artificial apparatus intelligence – automatic measurement of electro-acoustic characteristics depending on the input signal) provide new possibilities for correcting the lack of hearing, where in addition to the aesthetic design (miniature size, versatile design, the positioning of the external auditory canal) allow pleasant listening of the digital signal processing (communications with multiple people, fitness for listening in different environments-life theater, discos, business meetings) and undisturbed use of telephones. Determination of the hearing device is subjected to adequate correction of the hearing needs of the patient (left-handed, right handed, the activity of social life, permanent communication, and cognitive development in children). It is particularly important to emphasize the need for mutual amplification in case of a bilateral hearing loss, which is not the case in practice (except in children) because of the difficult economic situation and lack of knowledge. Binaural amplification eliminates "head shadow effect" ie. beneficiary receives the same perception of the volume at a lower volume-control than with monaural device, improves the depth perception, sound localization, speech understanding in noise and reverberation from space [23].
Proper use of the hearing amplifiers requires appropriate rehabilitation of hearing and speech by surdoaudiologist, comprehensive assessment of mental characteristics, motivation, the presence of stigma and mental disorder that requires immediate involvement of psychiatrists and psychologists in order to reduce disability, prevention of mental illness and improve the quality of life.

**CONCLUSION**

The focus on the medical model of disease (prescription drug therapy, surgical treatment, hearing amplification as a last chance to correct the hearing impaired) ignores the fight against the demoralization which represents dehumanization of the relationship between doctor and patient, ignoring the emotional and psychosocial components of the patient’s life. Problem of the audiological practice was intertwined with psychiatric clinical practice because mental disorders are often masked by undiagnosed hearing fall, which complicates healing and psychiatric treatment [22]. Therefore the orthodox medicine have to radically change their attitudes in terms of overall looking at people with hearing impairments to reduce disability and return to normal life. In the time that is laden with socioeconomic problems, the challenge is difficult and complex and required in many areas of substantial change in work organization and methodology of audiologists and experts of other professions in working with hearing disabled. The internal cohesion and harmony of the mental personality, and its harmony with the environment can be achieved by proper attitude primarily physicians, families, regular education, community involvement in the assessment of persons with disabilities.

There is no "worldwide" model concept of working with hearing distracted people, in our country there is no single concept of concerted practice, there is no valid data on the number of deaf and hard of hearing or on the number of successfully rehabilitated people, information on the hearing impaired people that were audioligically eventually transferred to a psychiatric clinic. Given the social aspect of the problem as a primary source of difficulty, boundaries extend between the professions involved in team activities and perception of care for people with deafness and hearing loss. Audiologists, psychiatrists, psychologists, surdoaudiologists have the greatest responsibility in terms of early detection of hearing loss, successful rehabilitation and prevention of mental disorders that accompany this obvious handicap.
OŠTEĆENJE SLUHA I SLUŠNA AMPLIFIKACIJA – ZNAČAJAN ETIOLOŠKI FAKTOR U SAGLEDAVANJU MENTALNIH POREMEĆAJA

Ninoslava Dragutinović¹
Fadilj Eminović²

Kratak sadržaj
Slušanje je važan faktor u kognitivnom sazrevanju i razvoju govora kao najslожenijeg i najsavršenijeg simboličkog sistema u ljudskoj komunikaciji. Poremećaj sluha u ma kom periodu života imaće značajne posledice na celokupni razvoj ličnosti i može dovesti do poremećaja psihičkih funkcija. Lakše ili teži oštećenje sluha koje otežava slušno-govornu komunikaciju, u slučajevima kada su druge mogućnosti lečenja iscrpljene (medikamentozno, himuroško ili kombinovano) zahteva slušnu amplifikaciju tj. primenu slušnog aparata. Audiološkoj i psihijatrijskoj dijagnostici se nameće problem zapažanja slušnog hendikepa koji je često zamaskiran kliničkom slikom depresije, anksioznosti, paranoje, mentalnim poremećajima i poremećajima ponašanja što zahteva timski rad stručnjaka kao i edukaciju lekara svih specijalnosti. Pored audiološke dijagnostike primena upitnika Hearing Handicap Inventory (HHI) i Tinnitus Handicap Inventory (THI) omogućuje stepenovanje slušnog hendikepa, procenu emocionalnog i socijalnog gubitka sluha kao i pravu potrebu za slušnom rehabilitacijom. Postojeći slušni hendikep pokreće mehanizme odbrane koji su usmereni na održavanje samopoštovanja, što utiče na formiranje posebnog sklopa ličnosti sa oširomšenim identitetom koju karakterišu: sumnjičavost, nepoverenje, ograničena kontrola, egokidnost i impulzivnost. Depresija i anksioznost najčešće su reakcije na slušni hendikep. Postojanje slušnog hendikepa pokrene mehanizme odbrane koji su usmereni na održavanje samopoštovanja, što utiče na formiranje posebnog sklopa ličnosti sa oširomšenim identitetom koju karakterišu: sumnjičavost, nepoverenje, ograničena kontrola, egokidnost i impulzivnost. Depresija i anksioznost najčešće su reakcije na slušni hendikep.

Ključne reči: oštećenje sluha, slušna amplifikacija, mentalni poremećaji

1 Specijalistička ordinacija za uvo, nos i grlo "Dr Dragutinović", Beograd, Srbija
2 Fakultet za specijalnu edukaciju i rehabilitaciju, Univerzitet u Beogradu, Beograd, Srbija
References:


Ninoslava Dragutinović
Sindjelićeva 17, Beograd
Tel: 0637372297
Fax: 0113822272
e-mail: nina.dragutinovic7@gmail.com