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Comparative Evaluation of Mental Dissociation, Phobia, Anxiety and Aggression in People with Hearing Impaired and those with Normal Hearing in Ahwaz “Iran”

¹Sahar Shomeil Shushtari, ²Mojtaba Tavakoli, ³Elham Aghaei, ²Azam Aghaei, ²Amene Kuhi and ⁴Behruz Mahmudi-Bakhtiari

¹Department of Audiology, School of Rehabilitation, Tehran University of Medical Sciences, Tehran, Iran

²Department of Audiology, Musculoskeletal Research Center, Jundishapur University of Medical Sciences, Ahwaz, Iran

³Faculty of Humanistic Sciences, Shahed University, Tehran, Iran

⁴Department of Performing Arts, University of Tehran, Iran

Corresponding Author: Sahar Shomeil Shushtari, Department of Audiology, School of Rehabilitation, Tehran University of Medical Sciences, Tehran, Iran

ABSTRACT

Hearing is an important sense. Some parts of our communication with the outside world are based on this sense. Children learn to speak by hearing the language. Those who are deaf from birth cannot acquire language. This study sought to compare the psychological profiles of people having normal hearing and those suffering from hearing loss in Ahwaz. This study has a comparative nature. Participants of this study were 40 normal-hearing and 40 people who suffered from hearing loss. The data were collected on the basis of SCL-90-R¹ questionnaire which is one of the most-applied questionnaires in psychiatry and a demographic questionnaire. The findings of this study showed an observable difference between people having normal hearing and those who suffer from hearing loss in terms of psychological disorders (psychological dissociation, phobia, aggression, paranoid thoughts and anxiety). The results showed that such disorders are more common among people who suffer from hearing loss. There are meaningful differences between people who have normal hearing and those who are suffering from hearing impaired in terms of all main variables of the study.

Key words: Mental dissociation, phobia, anxiety, aggression, hearing impaired

INTRODUCTION

Among the five senses, auditory sense has a higher degree of importance. Loss of hearing leads to a disconnection between people and their loved ones as well as their disconnection with the surrounding world. Hearing-impairment reduces life quality. It might lead to isolation, social inactivity and a sense of rejection. Audition has an undeniable role in character's improvement and socio-psychological developments. Social reactions and showing behaviors such as sympathy or blame are the causes of some mood disorders among this group of people. Although, those people who suffer from similar sense problem, their psychological condition is different. It has been said that suicide is more prevalent among those who suffer from hearing loss than those who suffer from

sight problems. The consequences related to auditory disorders show themselves in different problem areas such as individual problems (delay in speaking, isolation, pessimism, irritation), school problems (excessive inactivity and inability to cope with courses at school), psychological problems (depression, anxiety, hallucination) and social problems (unsocial and anti-social reactions, revengefulness).

Those people who suffer from hearing loss are more prone to psychological disorders, because they are unable to connect with others and they might be dominated by a feeling of inefficiency. Hearing-impairment can lead to isolation, social inactivity, a feeling of rejection and a low-quality life.

Various studies have shown that hearing-impaired people suffer from psychological problems and they are paid insufficient attention by the society. So, this study seeks to compare the psychological conditions among these people and those who have normal hearing.

According to Mirzaie Asl (2000), the psychological conditions of people suffering from hearing loss and people having normal hearing were compared. The results indicated that there is a meaningful difference between the psychological conditions of people suffering from hearing loss and those who have normal hearing. Also, the results suggested that there was no meaningful difference between people in terms of social relation problems and physical disorders.

Chu and Richdale (2009) found that mothers of hearing-impaired children suffer from a sleep disorder, depression, anxiety and stress. Dehkordi *et al.* (2011) reported that mothers of mentally-retarded children suffer from anxiety problems compared to mothers of normal children. In a study conducted by Kohansal (2008) in Shiraz, social skills of deaf and hearing school girls (15-18 years old) were compared. The results showed that hearing students were in a better position in terms of social skills, self-confidence and anti-social behaviors. But, in terms of aggressive behaviors and relation with peers, no meaningful difference was observed between the two groups.

According to Hosseinabadi *et al.* (2007), the relationship between hearing aids and depression was investigated among elderly people in one centre in Tehran. In this study, the level of depression among three groups of elderly people (30 elderly people having normal hearing, 30 elderly people suffering from moderately severe hearing loss without hearing aid, 20 elderly people suffering from moderately severe hearing problems who were using hearing aid). Beck Depression Inventory (BDI-II) was used to evaluate the level of depression among these three groups of participants. The data was analyzed by a one-way analysis of variance. The mean of depression scores were 1143, 2153 and 1640 for these groups respectively. This shows a meaningful difference among these three groups. No correlation was found between age and depression among the participants who were suffering from hearing loss without using hearing aids. But, among the other two groups, the correlation was observable.

According to Afrooz (2009), the socio-psychological and cognitive characteristics were analyzed and compared among young blinds and young deaf people. Because light, sound, vision and audition have various influences on the development of character, some special characteristics of these people have been discussed. He notes that lack of hearing not only has a major impact on learning ability and cognitive developments but also is a cause of depression among these people. In a study by Boi *et al.* (2012), the relationship between hearing loss and depression was investigated among elderly people. In this study, 15 elderly people who were over 70 years old were

examined. These participants were suffering from hearing loss and depression. General health, level of satisfaction with life, social skills, emotional stability and psychological health of these participants were investigated by a psychological questionnaire. These tests were conducted with 1, 3 and 6 month gaps by programmable hearing aids (digital double piece). At the beginning of using hearing aids, depression was reduced and life was improved.

According to Fellingner *et al.* (2007), hard of hearing participants were examined in terms of anxiety and life quality. In this study who life quality questionnaire was given to 373 hard of hearing participants. Hard of hearing participants, compared to hearing ones, received lower scores in their social relations. They might be more isolated in their relations.

According to Heine and Browning (2002), relational and psychological consequences of sensorineural hearing loss was studied among elderly people. It was revealed that coping with sensorineural hearing loss is very difficult for elderly people and it can lead to problems such as depression, anxiety, inactivity and social dissatisfaction. Sensorineural hearing loss has a negative impact on social and psychological operations and it might reduce life quality.

According to Yazdkhasti and Yarmohammadian (2009) in Isfahan, the relationship between depression among mothers and emotional intelligence of their daughters (hearing and deaf) was investigated. The results showed that loss of hearing among daughters was correlated with depression among mothers. Also, there was a correlation between depression among mothers and emotional intelligence of daughters. Because of negative emotional relations, a high level of depression had a direct correlation with low emotional intelligence. A low level of depression among mothers had a direct correlation with emotional intelligence among deaf teenagers.

According to Allivand *et al.* (2014), the psychological health of elderly people who were suffering from hearing loss was examined in Ahwaz. Seventy two 60-year-old or older people were examined in Imam Khomeini hospital of Ahwaz. The findings of this study showed that those elderly people who used hearing aids had a better psychological condition compared to those who were suffering from hearing loss and did not use hearing aids.

The present study was conducted to compare the psychological profiles of people having normal hearing and those suffering from hearing loss in Ahwaz.

Following hypothesis were tested:

- There are significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of psychological disorder
- There are significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of psychological dissociation
- There are significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of the level of paranoid thoughts
- There are significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of the level of Phobia
- There are significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of the level of aggressive behavior
- There are significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of anxiety level

MATERIALS AND METHODS

This study was a comparative study. Participants of the study were two groups. The first group consisted of 40 people who had no hearing problems. The second group consisted of 40 people who were suffering from hearing loss. These participants were using hearing aids. Hearing aids had been provided by the association of deaf and auditory measurement clinics in Ahwaz. Sampling was multi-stage and random. Two questionnaires were used to collect the data: (1) The SCL-90-R Inventory (2) Demographic questionnaire. Those participants who were suffering from hearing loss went to the association of deaf or auditory measurement clinics to answer questionnaire items. They were provided with necessary guidance by the trainers to answer the items.

Data collection

- Self SCL-90-R (Symptom Checklist 90 Revised)
- Demographic questionnaire

SCL-90-R questionnaire: One of the most useful tools in the United States is SCL-90 which is a psychiatric diagnosis. This test consists of 90 questions to assess psychiatric symptoms and is reported by the response. At first, this questionnaire was designed to show the psychological aspects of physical and mental patients. This test can be used to distinguish healthy subjects from patients. Last edition of the questionnaire designed according to previous literature. A previous study normalized the revised list of psychological symptoms in students of Shahid Chamran University of Ahwaz and Azad University. Material in this Test which measures 9 dimensions include: Somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychotic. Each questionnaire has a 5° range of the amount of discomfort score of zero (none) to four (very severe). Getting a high score on this test is indicative of the lack of mental health. This questionnaire was used frequently in the investigations of inside and abroad by everyone the demand of the research determined the reliability. The range of coefficients was reported 77-90% out of the country and its values range 57-90% were reported in the country which is satisfying.

Statistical analysis: The collected data was analysed by SPSS16 software.

RESULTS

The data was analysed by descriptive and inferential methods. The inferential analysis was done with MANCOVA test. Table 1 shows, there is an observable difference (8.87 compared to 3.90)

Table 1: Central tendency and dispersion indices of psychological disorder score among people who suffer from hearing loss and those who have normal hearing

Parameters	People suffering from hearing loss			People who have normal hearing		
	No.	Mean	Standard deviation	No.	Mean	Standard deviation
Psychological dissociation	40	8.87	6.10	40	3.90	4.6
Paranoid thoughts	40	7.52	4.10	40	4.75	4.6
Phobia	40	5.20	4.50	40	1.77	2.4
Aggressive behavior	40	5.50	4.01	40	2.57	6.8
Anxiety	40	8.70	6.80	40	4.20	4.2

Table 2: Multivariate analysis of co-variance (MANCOVA) for psychological disorder scores among people who suffer from hearing loss and those who have normal hearing

Tests	Value	f-test	Degree of freedom of hypothesis	Degree of freedom of error	Level of meaningfulness	η^2	Statistical power
Pillai's trace	0.215	2.106	9.000	69.000	0.041	0.215	0.834
λ wilks	0.785	2.106	9.000	69.000	0.041	0.215	0.834
Hitling trace	0.275	2.106	9.000	69.000	0.041	0.215	0.834
Roy's largest root	0.275	2.106	9.000	69.000	0.041	0.215	0.834

between participants who suffer from hearing loss and those who have normal hearing in terms of psychological dissociation scores. This shows that psychological dissociation is more common among people who suffer from hearing loss.

There is a meaningful difference between those who suffer from hearing loss and those who have a normal hearing in terms of paranoid thought scores (7.52 compared to 4.57). This shows that paranoid thought is more common among people who suffer from hearing loss.

There is a meaningful difference between those who suffer from hearing loss and those who have a normal hearing in terms of phobia scores (5.20 compared 1.77). This shows that phobia is more common among people who suffer from hearing loss.

There is a meaningful difference between those who suffer from hearing loss and those who have a normal hearing in terms of aggressive behavior scores (5.50 compared to 2.57). This shows that aggressive behaviors are more common among people who suffer from hearing loss.

There is a meaningful difference between those who suffer from hearing loss and those who have a normal hearing in terms of anxiety scores (8.70 compared to 4.20). This shows that high anxiety is more common among people who suffer from hearing loss.

First question: Are there any significant relationship between those people who suffer from hearing loss and those who have a normal hearing in terms of psychological disorder?

As can be seen in Table 2, level of meaningfulness is 0.05 for all tests. So, there is at least one meaningful difference between people suffering from hearing loss and those who have normal hearing in terms of psychological disorder scores (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety disorder).

The value of λ Wilks test is equal to 0.785 ($F = 2.106$). It shows a meaningful difference between people suffering from hearing loss and those who have normal hearing in terms of psychological disorder scores (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety) ($p = 0.05$).

Also, η^2 is equal to 21%. In other words, 21% of individual differences in terms of psychological disorders are related to differences between two groups.

The one-way multivariate analysis of co-variance was used to investigate differences between people who suffering from hearing loss and those having normal hearing in terms of psychological disorder scores (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety disorder). The results have been presented in Table 3.

As can be seen in 3, the F test shows that there is a meaningful difference between people suffering from hearing disorder and those having normal hearing ($p = 0.05$) in terms of psychological disorder scores (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety). So, the null hypothesis is rejected.

Table 3: One-way multivariate analysis of co-variance (MANCOVA) for psychological disorder scores (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety disorder) among people suffering from hearing loss and those having normal behavior

Psychological disorders	Sum of squares	Degree of freedom	Mean of squares	f-test	Level of meaningfulness	η^2	Statistical power
Psychological dissociation	372.052	1	372.052	12.53	0.001	0.140	0.938
Paranoid thought	121.617	1	121.617	6.244	0.010	0.075	0.694
Phobia	124.494	1	124.494	9.194	0.003	0.107	0.849
Aggressive behavior	43.4410	1	43.441	4.016	0.040	0.050	0.508
Anxiety	295.097	1	295.097	9.035	0.004	0.105	0.843

DISCUSSION

Psychological reactions of hard of hearing people might be similar to the reactions of those people suffering from psychological tensions. Because these people cannot either hear or properly hear, they are unable to recognize words and sentences. So, they are placed in an uncertain condition. This can be the cause of anxiety and obsession which might lead to other psychological problems.

The data of the present study showed that with a certainty of 95%, there is meaningful difference between who suffer from hearing loss and those having a normal hearing in terms of psychological disorder scores (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety). The mean of such problems is lower among people having normal hearing.

As can be seen in Table 3, compared to people who have a normal hearing, those who suffer from hearing loss are more prone to psychological disorders (psychological dissociation, phobia, aggressive behavior, paranoid thoughts, anxiety).

A comparison between people suffering from hearing loss and those who have normal hearing in terms of anxiety level.

In this study, it was hypothesized that anxiety is higher and common among people suffering from hearing loss. The data of this study confirmed this hypothesis. A meaningful difference was observed between people having normal hearing and those suffering from hearing loss ($p < 0.004$). The finding is consistent with the results of a study conducted by Dehkordi *et al.* (2011). As well as, the finding of study is consistent with the results of research carried out by Fellingner *et al.* (2007).

A comparison between people suffering from hearing loss and those who have normal hearing in terms of aggressive behaviors.

In this study, it was hypothesized that aggressive behaviors are more common among people suffering from hearing loss. The data of this study confirmed this hypothesis. A meaningful difference was observed between people having normal hearing and those suffering from hearing loss ($p < 0.04$).

A comparison between people suffering from hearing loss and those who have normal hearing in terms of phobia.

In this study, it was hypothesized that phobia is more common among people suffering from hearing loss. The data of this study confirmed this hypothesis. A meaningful difference was observed between people having normal hearing and those suffering from hearing loss ($p < 0.003$). A comparison between people suffering from hearing loss and those who have normal hearing in terms of paranoid thoughts level.

In this study, it was hypothesized that paranoid thoughts are more common among people suffering from hearing loss. The data of this study confirmed this hypothesis. A meaningful difference was observed between people having normal hearing and those suffering from hearing loss ($p < 0.01$).

A comparison between people suffering from hearing loss and those who have normal hearing in terms of psychological dissociation level.

In this study, it was hypothesized that psychological dissociation is more common among people suffering from hearing loss. The data of this study confirmed this hypothesis. A meaningful difference was observed between people having normal hearing and those suffering from hearing loss ($p < 0.001$). The socio-psychological and cognitive characteristics were analyzed and compared among young blinds and young deaf people.

These finding is consistent with the following studies: Dehkordi *et al.* (2011) in a study entitled "Stress in mothers of hearing impaired children compared to mothers of normal and other disabled children" reported that mothers of mentally-retarded children suffer from anxiety problems compared to mothers of normal children. In a study conducted by Kohansal (2008), the results showed that hearing students were in a better position in terms of social skills, self-confidence and anti-social behaviors. According to Heine and Browning (2002), relational and psychological consequences of sensorineural hearing loss was studied among elderly people. It was revealed that coping with sensorineural hearing loss is very difficult for elderly people and it can lead to problems such as depression, anxiety, inactivity and social dissatisfaction. Sensorineural hearing loss has a negative impact on social and psychological operations and it might reduce life quality.

As well as, Mirzaie Asl (2000) in a study entitle of "Comparison of the psychological conditions of people suffering from hearing loss and people having normal hearing" concluded that there is a meaningful difference between the psychological conditions of people suffering from hearing loss and those who have normal hearing. Yazdkhasti and Yarmohamadyan (2009) in a research entitled of "the relationship between depression among mothers and emotional intelligence of their daughters" they found out that there was a correlation between depression among mothers and emotional intelligence of daughters. Because of negative emotional relations, a high level of depression had a direct correlation with low emotional intelligence. A low level of depression among mothers had a direct correlation with emotional intelligence among deaf teenagers. Finally, Afrooz (2009) in a study entitles of "Analytical and psychological comparison of cognitive and psycho-social characteristics of blind and deaf people" concluded that lack of hearing not only has a major impact on learning ability and cognitive developments but also is a cause of depression among these people.

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