

RESEARCH ARTICLE

Effectiveness of cognitive behavioral therapy for social anxiety in adults with hearing loss

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Abstract

Background and Aim: For various reasons hearing-impaired people have stress and fear of being in social situations. Cognitive behavioral therapy (CBT) is known as one of the most valid therapies of social phobia. The aim of this research was to show the efficacy of cognitive behavioral therapy on the level of social anxiety in hearing-impaired adults.

Methods: The study population consisted of hearing-impaired people aged 20 to 30 years old. Of 30 individuals that selected through simple sampling method, 20 with high scores in anxiety disorder diagnosis interview, were assigned into experimental (n=10) and control (n=10) groups. Cognitive behavioral therapy was performed for the experimental group. Social phobia components (Fear, avoidance, and physiology) were determined by social phobia inventory and structured clinical for interview for DSM-IV.

Results: Mean social phobia scores is less in the experimental group compared to the control group. Also mean scores of social phobia components (fear, avoidance and physiology) was less in the experimental group than in the control group ($p < 0.05$).

Conclusion: Cognitive behavioral therapy is

efficient in decreasing social phobia in hearing-impaired adults and in reducing most components such as fear, physiologic discomfort and avoidance in social situations.

Keywords: Impaired hearing adults; cognitive behavioral therapy; social phobia

Introduction

Social relations are very developed in today's societies and people have to be present in society and interact with others. Social phobia disorder is an issue for some people. Because of problems in communicating with others, this disorder is more common among hearing-impaired people. Hearing is one of the most important sensory abilities, that the lack of it can cause disorders in the process of human adjustment to environment. Hearing defect causes disorders in one's intellectual and social background [1]. The most important of them are anxiety and inappropriate social behavior [2].

High incidence of social anxiety disorder (social phobia) occurs in late childhood and early adolescence and it is more common in girls than boys [2]. Social phobia is a clear and constant fear of social interactions to the point that in functional situations it may cause shame [3].

From cognitive-behavioral point of view, it is believed that social phobia or social anxiety disorder (SAD) arises from certain beliefs that these beliefs have good effects on people with SAD affects which leads to continuity of that in

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such people, while it is unlikely for these beliefs to make a good influence on others [4]. In other words, social phobia is a kind of anxiety disorder and is continual specified fear of embarrassment and being evaluated in specified social situations or when attempting to do a certain activity before others. One of most efficient methods to treat anxiety disorder is cognitive behavioral therapy (CBT) [4]. Scientifically, CBT has been emphasized more than other psychological treatments, to treat social phobia [5]. This kind of therapy usually consists of gradual exposure to anxiety-inducing social situations, behavioral tests to examine hypothesis regarding a person suffering from social anxiety in social situations, and cognitive restructuring maladaptive beliefs of people who suffer from social anxiety [5].

During the development of specific social anxiety treatment models, Hoffman pattern that is referred to as a comprehensive and specific disturbance pattern (comprehensive and disorder-specific CBT model) is worth mentioning. Hoffman introduces his new CBT as a social self-reappraisal therapy (SSRT) and uses therapy techniques for correction of perception of "own" in social situations [6]. In Ropy and Himberg pattern, "own" has been introduced as a part of the pattern but there is no emphasize on direct correction of patient's mental representation of self-perception, which are important for encountering situations [7]. However, in the pattern of Hoffman, "own" has a more prominent role compared to past patterns, as far as techniques for dealing with "own" are used [6]. In this model, the encounter of "self-position" is used. Hoffman and Spkoski suggest that preliminary study results regarding the effectiveness of this intervention are very promising [8]. In the research done by Ghoreishi-raad on mental health status of students who are deaf and suffer from hearing loss, the results showed that there is a difference between hearing and deaf adolescents in public health variable and general health of deaf teenagers is lower than hearing teenagers and general health of deaf boys is lower than deaf girls. Also deaf adolescents compared to adolescents with normal hearing

have more physical symptoms, anxiety and insomnia and they have more social anxiety [1]. Safa'i Rad et al. studied the comparison of effectiveness of cognitive behavioral therapy with meta cognitive therapy on the symptoms of social phobia, their findings showed that: between scores of three groups (the first group under CBT and the second one under meta cognitive therapy and third was control group that did not receive the intervention), in the post-test step there is a significant difference in the variable related to social phobia. The post hoc test also indicated reduction of social phobia symptoms in the experimental group compared to the control group in post-test, but there was no significant difference between experimental groups' scores [9]. The study of Atrifard and Shoaeri was conducted on the efficacy of CBT on decreasing symptoms of the social anxiety disorder based on Hoffman pattern, results showed that CBT has a positive effect on decreasing different components of social anxiety disorder while this efficacy remains for post-test to consistency step [10]. Rahmanian et al., during a research based on effect of group CBT on social anxiety in girl students found the following results there is a significant difference in social anxiety between experimental and control groups, and 95% of participants could maintain the outcomes of the therapy for one month [11].

This research aimed to respond whether the CBT effective on decreasing social phobia in hearing-impaired adults?

Methods

This study follows the semi-experimental, pre and post-test with experimental and control groups. The studied population consists of hearing-impaired people aged between 20 and 30 who are members of deaf community of Markazi province in Arak city. 30 hearing-impaired people were selected using simple sampling method. 20 hearing-impaired people who had high scores regarding anxiety disorders and diagnosed via interview were chosen among them then divided into two groups of experimental and control with 10 people in each group. 35 percent of participants were suffering from average

Table 1. Cognitive behavioral therapy sessions

Session	Topic
First	Acquaintance to patient and total assessment
Second	Patient cognitive assessment
Third	Logical opposing against self-speech
Fourth	Patient awareness of his/her feelings (in fearful situation)
Fifth	Studying cognitive distortions
Sixth	Anxiety control techniques
Seventh	Converting improper feelings to appropriate emotions
Eighth	Real sensitivity deterring and real encountering

hearing impairment and 65 percent were suffering from severe hearing impairment. Diagnose age of hearing impairment in 14 people was under 3 and in 6 people more than 3 years and 18 people used hearing aids and 2 people used cochlear implant. Inclusion criteria included the presence of hearing loss, female gender, aged 20 to 30 years, lack of other disorders and having high scores in diagnosis interviews regarding anxiety disorders.

In this current research we used social phobia-inventory (Kanor and et al, 2000) and diagnosis interview based on Structured Clinical Interview for DSM-IV (SCID-IV to data collection. Social Phobia Inventory (SPIN) is a self-report instrument which consists of 17 articles which has three subscales of fear, avoidance and physiologic discomfort. SPIN grades based on 5 degree Likerty scale- which is grading from never (0) to very high (4). Retest coefficient of SPIN is between 78% and 89%, its internal consistency (Cronbakh Alfa) is 82%-94% [12]. Also in research of Hasanvand Amoozadeh et al. reported Cronbakh Alfa of this inventory between 74% and 89% while its retest coefficient is 68% and convergent validity of its subscales have been reported between 64% and 78% [13]. Based SCID-IV diagnosis interview is an interview which is based on diagnostic criteria of Fourth Statistical Classification and Diagnosing mental illness of America Psychiatric

Association (DSM-IV) that was structurally designed to diagnose mental disorders and by questioning about symptoms of social anxiety disorder, confirmation of social anxiety diagnosis takes place. It is necessary to mention that regarding some hearing-impaired people's lack of ability to percept some phrases and concepts, research uses sign language and examples to complete questionnaire and techniques of cognitive behavioral therapy. CBT pattern of Hoffman consist of eight sessions group training but due to the presence of hearing-impaired people in the research and time consuming usage of sign language and examples, content of each session was presented in two sessions. Generally, number of training sessions is 16 (Table 1).

For social phobia components, we used analysis of covariance (ANCOVA) to study the interaction effect of the SPIN and SCID-IV test scores and group. ANCOVA assumptions (Leven's test and homogeneity of regression slope) were tested and confirmed. $p < 0.05$ were considered significant.

Results

Mean (standard deviation) scores of social phobia components are equal in both groups before CBT (Table 2).

After omitting the effects of points of fear, avoidance and physiological discomfort on pretest

Table 2. Mean (standard deviation) of pre- and post-test for outcome measures in the experimental and control groups

	Mean (Standard deviation) scores in pretest		Mean (Standard deviation) scores in post-test	
	Control	Experimental	Control	Experimental
Social phobia	27.00 (10.85)	28.90 (11.49)	24.70 (10.48)	9.60 (9.20)
Fear	8.00 (5.20)	8.80 (5.88)	7.10 (1.28)	3.50 (2.91)
Avoidance	13.00 (3.58)	14.20 (4.68)	15.07 (8.00)	3.90 (3.69)
Physiologic discomfort	5.60 (2.80)	5.90 (2.51)	4.60 (1.89)	2.20 (3.67)

as covariate variables, original effect of training was significant on post-test for three components ($F=12.47$, $p=0.003$ for fear, $F=6.68$, $p=0.001$ for avoidance, and $F=3.69$, $p=0.002$ for physiological discomfort).

Mean scores of physiological discomfort, fear and avoidance and social phobia in experimental group is lower than control group which indicates the effect of CBT on decreasing fear, avoidance and physiological discomfort and social phobia (Table 3).

Discussion

The results showed that average of social phobia is lower in the experimental group compared to the control group, which indicates efficacy of CBT on decreasing variables of social phobia.

Results of present study confirms findings of the previous studies by Ghoreyshi Rad [1], Safa'i Rad et al, [9], Atrifard and Shoaeri [10], Rahmanian et al [11], although none of these researches studied the efficacy of CBT on the level of social anxiety in hard of hearing adults directly.

Cognitive behavioral therapies increase social, behavioral and cognitive skills of hearing-impaired participants, thus decreasing their social phobia it seems that social phobia is caused by a defect in super cognitive processing system and frequent negative thoughts of these people that makes a defective cycle of frequent negative thoughts in hearing-impaired people. So there is a need for a new therapy method that controls thinking, and changes mind situation.

CBT for social phobia have three basic exercises: intersession encountering, cognitive reconstructing before and after intersession encountering, and homework for encountering, which clearly consists of super cognitive skills that were learnt in groups. During these sessions explanations of cognitive behavioral social phobia were presented to patients to prepare them logically for three part therapies and start cognitive reconstructing of intellectual concepts of patients by structural exercises. Patients gradually expose themselves and speak before the group by talking briefly about themselves, their original social phobia and explain their aims of participating in sessions and having roles in discussions regarding cognitive reconstructing exercises [14]. This method of therapy encourages the people to expose themselves into real social life situations and repeating this process with cognitive reconstructing of their deficient thoughts which leads to decreasing disorder symptoms.

In explaining the results of hypothesis test of efficacy of CBT on social phobia it can be said that social anxiety is a constant fear of one or more situations which an individual is exposed to the pedantic sight of others while he/she fears what he/she did or their behavior was embarrassing and humiliating. This matter is so abnormal that in many cases leads to avoidance of significant social and job positions. Anxiety inducing situations could consist of any kind of social relations such as participating in small groups, party, and talking to strangers and so on.

Table 3. Balanced mean (standard deviation) scores after cognitive behavioral therapy in the experimental and control groups

	Mean (Standard deviation) score	
	Control group	Experimental group
Fear	7.09 (0.72)	3.51 (0.72)
Avoidance	8.07 (1.50)	3.94 (1.13)
Physiologic discomfort	4.69 (0.94)	2.11 (0.94)
Social phobia	19.70 (5.83)	19.60 (2.39)

It seems that in CBT studying cognitive distortions in the presence of the individual themselves could decrease the fear of defeat in social relations, also converting improper emotions to proper emotions, decreases fear in hearing-impaired adults. Moreover, results showed that CBT has positive effect on avoidance and physiologic discomfort in hearing-impaired adults. When an individual who suffers from social anxiety enters a social situation, he/she experiences sever anxiety, and for this reason responding options of the individual are very restricted; (exiting the situation or avoidance of talking), usually individuals spend a lot of time, energy and expense in order to avoid or to escape from anxiety and other negative internal events. Language, individual's mentality and even culture teach people to assess anxiety as negative and their other internal circumstances support any attempt to avoid this feeling. Therefore individual's life is focused on avoiding negative internal events rather than living in the suitable way. This intense restriction is the main cognitive resource of mental defect diagnosis [15]. An individual, who suffers from social anxiety, is not willing to start relation with others, and while having a sense of fear, he/she avoids any situations that they might be judged by others. Individual's perception or consideration of being assessed as weak by others regarding their personality, appearance and abilities in social situations could be real or imaginary. Because of their defect and others' judgment of

hearing-impaired people, usually they suffer from avoidance. CBT helps people not to use avoidance as a response, through teaching regular sensitivity deterring technique and via direct encounters to anxiety inducing situations. Somatic and physical symptoms may include face redness, hand tremor, nausea and urine urgency [16]. Method of CBT helps the patient by techniques of patient awareness from its feelings and physiologic reactions of his body when encountering anxiety inducing situations, and then via learning anxiety control techniques. Hearing-impaired people could reduce symptoms of social phobia based physiologic discomfort by using these exercises.

Conclusion

Generally, results of current study indicates efficacy of cognitive behavioral therapy on hearing-impaired adults. The presented content of this therapy pattern could decrease the symptoms and reduce fear, physiologic discomfort, and avoidance in social situations, in hearing-impaired adults. This study did not have the possibility for consistency and to study the outcomes of implementation of long term intervention program, also participants were chosen only from one gender, thus it is suggested that in future research to apply several post-tests instead of one, in different time intervals to asses stability of trainings regarding time and age passing. Also similar researches should take place on other growth periods and different

genders. Regarding the results of other researches that emphasize on efficacy of CBT based on acceptance-commitment therapy (ACT), which decreases the social phobia, it is suggested to apply above method to study its efficacy on reducing social phobia in hearing-impaired adults. In this research to convey given concepts, sign language was used, in future researches visual teaching methods are encouraged as well.

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