

## The effect of music therapy on improving the performance of autistic children, systematic review

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### Abstract

**Background and Objective.** recent studies show that music therapy is effective in improving psychological disorders. this systematic review aimed to examin the result of studies the effect of therapeutic music on improving the performance of autistic children was performed.

**Method and Material.** Google Scholar, Pubmed and Google were searched from 2014 up to November 2018.

**Result.** studies showed that ASD children may have high listening ability and this will result in the effect of music therapy on these children and other studies showed that using music rhythms is effective on encouraging ASD children to synchronize their skills. In 95% of cases, the effect of music therapy on improving the social performance and interactions was higher than drug treatment .

**Conclusion.** studies showed, music therapy helps children with autism to improve their abilities in personal and social performances. This leads to an increase in the mental health of ASD children and improvement in interactions of parents.

**Keywords:** Music therapy, autism, autistic behaviors, autism spectrum disorder.

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### Introduction

Autism is a neurodevelopmental disorder that leads to the defect in the communications, social interactions, behaviors, interests, and limited and repeated activities in these patients. Several factors such as genetics, chromosome and brain disorders are effective in this disease (8). However, ASD children have special capabilities.

Research showed that integration of art in the treatment is an effective therapeutic strategy (9). Music therapy is an approach that aims to keep, magnify, and recover the health of body (6). This therapeutic approach is extending and applying in different fields, such as psychological disorders, and it is performed in two active (such as singing and playing) and inactive (such as listening music) manners (2-10-11).

**Method and Material:** Google Scholar, Pubmed and Google were searched from 2014 up to November 2018.

### Result

This study reviewed the efficiency of music therapy on children with autism disorder. These

study show sign music therapy has been effective on social interactions.

In 80% of the conducted studies, inactive music (7-10-11), and in 20% of studies, active music (10-11) were effective in improving social interactions of ASD children.

In 66% of the conducted studies, short-term music therapy approach was effective in improving the social interactions of ASD children (1). However, other studies have shown that short-term therapeutic approach has no significant effect on improving the social interactions and long-term therapeutic approaches should be used (12).

In the performed studies, music with slow and simple rhythm is more effective than music with fast and complicated rhythms on improving the social interactions of ASD children (5-8-9). And all of these cases affected at least 20% of mental health of ASD children (12).

### Discussion

Imaging studies show that ASD children experience higher connections between audio-visual areas (7), as well as connections between

emotion processing networks and memory while they are listening to music (1), which leads to an improvement in the verbal and nonverbal communication (such as eye contact) (2-3-9-13-14) and an increase in compatibility skill (7-11-14).

Other studies showed that listening music along with the lessons for walking in ASD children (1-4), and/ or via playing and singing process (5) will result in a significant improvement in undesired activities and balance (1-4).

In music therapy, interaction and emotional factors between the child and therapist could be helpful in increasing the compatibility skill of ASD children (4-7-11-14).

Music group events such as group singing (5) and learning skills in groups along with music, not only increases the interaction ability in ASD children (3-5), but also results in learning different skills such as personal skills and compatibility (7-9-10-11-14). Moreover, it leads to an increase in understanding face skill that is a non-verbal skill (2-3-9-14).

In 95% of cases, the effect of music therapy on improving the social performance and interactions was higher than drug treatment (14).

Another study showed that ASD children may have high listening ability and this will result in the effect of music therapy on these children (14).

Music such as classic music that had a simpler and slower rhythm will increase concentration as they are more attractive (8-9).

Studies showed that using music rhythms is effective on encouraging ASD children to synchronize their skills (5).

Writing music note along with listening music will increase the synchronization and interaction between action, listening, and seeing areas in the brain that lead to an increase in attention and learning skills (4).

## Conclusion

As studies showed, music therapy helps children with autism to improve their abilities in personal and social performances, such as attention and learning skills, increasing compatibility and verbal and nonverbal interactions, and social interactions. This leads to an increase in the mental health of ASD children and improvement in interactions of parents.

We are hopeful that reading this research will encourage the reader to continue this field.

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