



EFFECTIVENESS OF VOCAL MUSIC ON REDUCING ODD BEHAVIOUR AMONG CHILDREN WITH INTELLECTUAL DISABILITIES HAVING ASD

¹Jayati Mitra, ²Dr. Shilpa Manogna

¹Special Education Teacher, ²Lecturer in Special Education,

¹Special Education Centre,

¹National Institute for the Empowerment of Persons with Intellectual Disabilities (NIEPID), Secunderabad, India

Abstract: Purpose: The goal of the study was to investigate the effectiveness of Vocal music on reducing odd behaviour among children with Intellectual Disabilities having ASD

Method: Total 5 students with moderate Intellectual disability between the age group of 10-16 years studying at special school were selected as the sample for the present study. All the selected participants were at simple sentence level and having frequent level of laughing and self talking. Single group pre-test post-test research design was used for this study. BASIC –MR Part-B was administered to assess the base line and evaluation score of the odd behaviour. Performance checklist was developed to check the performance of their associated skills during signing period. The students of the group were taught singing consisted with 8 lines and jingles were also introduced along with singing. Task analysis of singing and frequency recording of selected odd behaviours were done to check the regular achievement level of the participants. Total 20 sessions were carried out for the data collection.

Results: The result indicated that there is a significant difference for reducing of odd behaviour among all 5 participants of the study. Time series was done for each participant to see the difference in session wise achievement scores in singing skills and reducing odd behaviour. The rates of learning among the students were also high. This study reveals that rhythm focuses on reducing repetitive talking and laughing with other odd behaviour for easy acquisition of any task or activity which leads the participants towards Independent living.

Conclusion: From the result it is evident that intervention through vocal music also helps in enhancing good communication and social skills among children with moderate intellectual disabilities having ASD. It makes the environment more meaningful to the children with ASD as it improves their social communication skills. Finally it can be concluded that introducing Vocal Music to the children with Intellectual Disabilities having ASD definitely brings positive changes in reducing all other problem behaviours. So intervention through Vocal music is regarded as one of the most suitable approach implemented for Independent Living for the children with Intellectual Disabilities having ASD.

Index Terms - Vocal Music, Odd Behaviour, Children, Intellectual Disability, ASD

INTRODUCTION

According to RPWD, Act, 2016:“Intellectual disability, a condition characterised by significant limitation both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behaviour which covers a range of every day, social and practical skills, including— (a) "specific learning disabilities" means a heterogeneous group of conditions wherein there is a deficit in processing language, spoken or written, that may manifest itself as a difficulty to comprehend, speak, read, write, spell, or to do mathematical calculations and includes such conditions as perceptual disabilities, dyslexia, dysgraphia, dyscalculia,

dyspraxia and developmental aphasia; (b) "autism spectrum disorder" means a neuro-developmental condition typically appearing in the first three years of life that significantly affects a person's ability to communicate, understand relationships and relate to others, and is frequently associated with unusual or stereotypical rituals or behaviours.

Music is a form of art. Music is also a form of entertainment that puts sounds together in a way that people like or find interesting. Most music includes people singing with their voices or playing musical instruments such as piano, guitar, drum etc. The word music comes from the Greek word (mousike) which means "art of the Muses". In ancient Greece the Muses included the goddesses of music, poetry, art, and Dance. The idea of music as a healing influence which could affect health and behaviour is at least as old as the writings of Aristotle and Plato. Landrek et al (2005) revealed that music therapy is a dynamic process through which children with intellectual disability interact with their environment and peers. American Music Therapy Association (2006) states that the repetition of songs enables intellectually challenged children to identify numbers, colours and objects, develop cognitive, behavioural, physical, emotional and social skills, and enhance communication. American Music Therapy Association (2006) also argues that involvement in music stimulates attention and encourages participation in educational settings. Music helps individuals who have behavioural-emotional disorders and children with communication problems, as well as attention, motivation and behavioural problems. Music therapy has been extensively used in the past four decades as a treatment for children with disabilities (Wigram et al, 2002; Nor doff and Robbins, 2007). Behaviour problems tend to be more prevalent in individuals with intellectual disability than in the general population. It is difficult to diagnose and treat behaviour or psychological conditions as the intellectual disability becomes more severe. Dykens (2000) suggested that adolescents and children with intellectual disabilities have a significantly greater risk of psychiatric disorders as compared to their peers without intellectual disability. Stambough (1996) found music to be beneficial for students with intellectual disabilities. Music therapy is provided for children with early emotional damage, children with ADHD, and children who suffer from intellectual disability, brain damage, global developmental delay, or specific learning disorders, behaviour, communication, social, or attention problems not previously diagnosed (Wigram et al, 2002). The World Federation of Music Therapy indicated that music in a controlled music therapy session could include singing, instrument playing, listening, moving and creating new music (Birkenshaw, 1994; Schmidt-Peters, 2000; Wigram et al, 2002). Sound that includes pitch, volume and tone colour, is an integral part of music therapy sessions (Samson et al, 2002; Samson, 2003). It is also known to facilitate emotional expression and management (Kallilen and Ravaja, 2004).

Aim: The goal of the study is to investigate the effectiveness of Vocal Music in reducing odd behaviour among children with Intellectual Disabilities having ASD.

Objective: i) To assess the frequency of odd behaviour among children with Intellectual Disabilities having ASD.

ii) To find out the effect of vocal music in reducing odd behaviours among children with Intellectual Disabilities having ASD.

Hypothesis: There will be no significant difference between the pre-test and post –test mean scores of odd behaviour among children with Intellectual Disabilities having ASD.

Operational Definition:

- i) **Vocal Music:** One type of music performed by one or more singers with jingle accompaniment in which singing provides the main focus of the piece.
- ii) **Odd Behaviour:** One type of problem behaviour where laughs to self, laughs inappropriately and Talks to self was the main focus.
- iii) **ID with ASD :** Children with Moderate Intellectual Disabilities (ID) and diagnosed by CARS as Autism Spectrum Disorder (ASD)

METHODOLOGY

A) **Research Design:** Single Group Pre-test and Post-test experimental Design.

B) **Sample:** Total 5 students diagnosed with moderate Intellectual disability having ASD between the age group of 10-16 years attending Autism Service unit at Special Education Centre, NIEPID were selected for this study. All the selected participants were at single sentence level.

C) **Tool:** BASIC-MR Part B was used for assessing pre-test and post-test score of the odd behaviours.

D) **Intervention:** Total 20 sessions of intervention was carried out for data collection of this study.

E) **Procedure:** A total of twenty sessions of intervention was carried out by the researcher. For conducting the research a separate room was allotted. Visual schedules and pictorial cues used to give to all the participants every day before initiation of the music. After that the whole to part principal were followed to teach the song to each participants. Pre-test scores were recorded for each student

before the intervention. Selected behaviours of the students before intervention were observed in their own classroom also. Students were given singing training for 30 minutes as intervention. After every singing practice session 30 minutes were given to the each child any classroom activities where the recording of odd behaviour was done for each student. Informed consent was taken from parents, class teacher and school authority. Necessary prompting was given during intervention. Reinforcements were given to motivate the children towards the reducing the problem behaviour. Evaluation was done after every 5th session for each student depending upon the frequency of performance of the skills.

RESULTS

Data was analyzed and interpretation of the results was done using Statistical Package for Social Sciences (SPSS). Mean, Standard Deviation (SD) and Paired t-test was calculated for finding out the statistical significance. The results are discussed in the table below

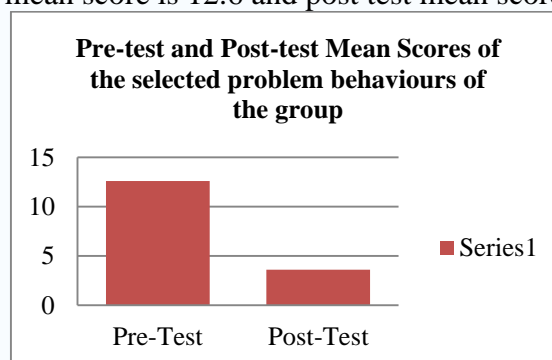
Table 1: Comparison of the pre test and post test mean scores of the group

N = 5

	Mean	SD	t- value
Pre-test	12.6	0.54	28.4**(df=4)
Post-test	3.6	1.14	

**p<0.01 highly Significant

Table – 1 Data shows the pre test and post test mean scores on reducing problem behaviour after vocal music intervention .The pre test mean score is 12.6 and post test mean score is 3.6.



Standard deviations of pre test is 0.54 and post test is 1.14 .To find out whether the difference between pre test and post test mean score is significant or not a paired t-test was conducted. The obtained t- value is 28.4 this calculated t- value is higher than the table value. It indicates that the differences between the pre test and post test mean scores are highly significant at 0.01 level of significance (p<0.01).It shows that reduction of the odd behaviour of the group is lower in comparison with the problem behaviour of the group before the intervention. The result of the present study [extended the study of Kalgotra & Warwal \(2017\)](#) that Music intervention program produced significant changes only in the domains of violent and destructive behaviour and misbehaves with others domains of children with mild intellectual disability. It is observed during intervention the subjects in group has showed interest for singing rather than laughing or self taking which agree with the study The efficacy, of different behaviour modification techniques, along with the educational methods for the autistic children, was proved in a study by Kielinen et al. (2002) where the interventions included physiotherapy, speech therapy, occupational and music therapy, TEACCH, Lovaas and Portage program. Almost all the samples showed some improvement on the Childhood Autism Rating Scale scores. Further data analysis was done to observe the session wise performance of the participants on reducing odd behaviour.

Table: 2 Comparison of Pre and Post test performance for each participants of the group

Subject	Pre test Percentage	Post Test Percentage
S1	81 %	25%
S2	75 %	18.75%
S3	81%	31.25%
S4	75%	12.5%
S5	81%	25%

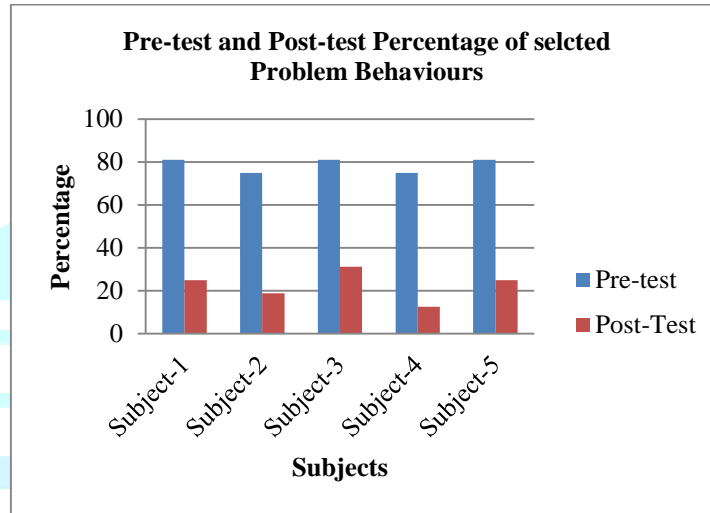
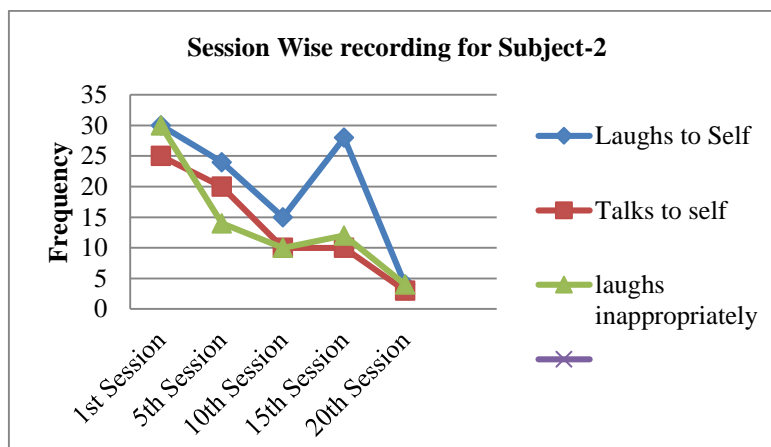
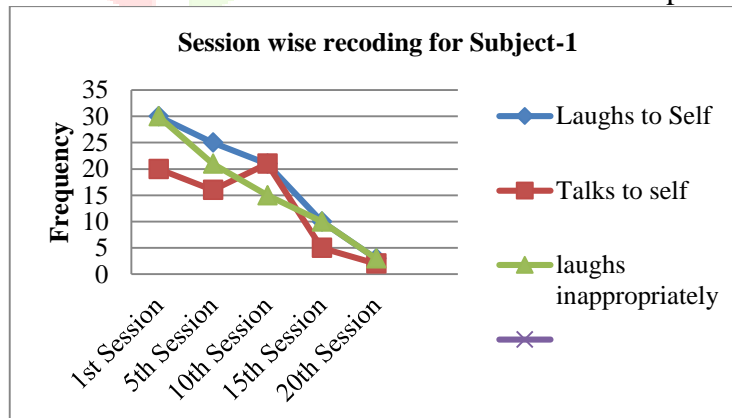
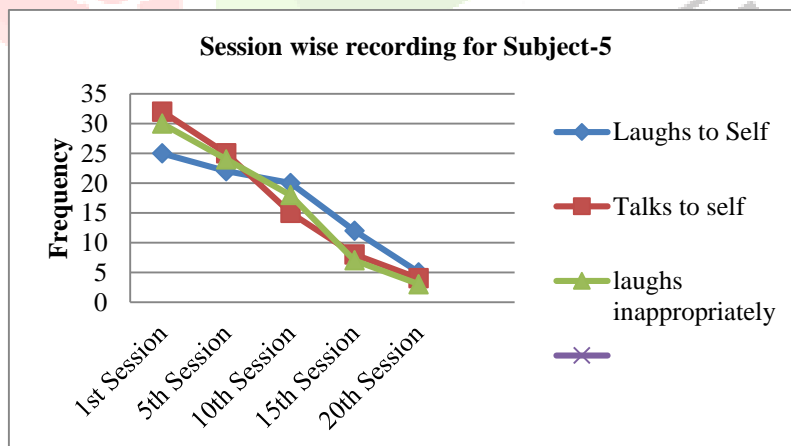
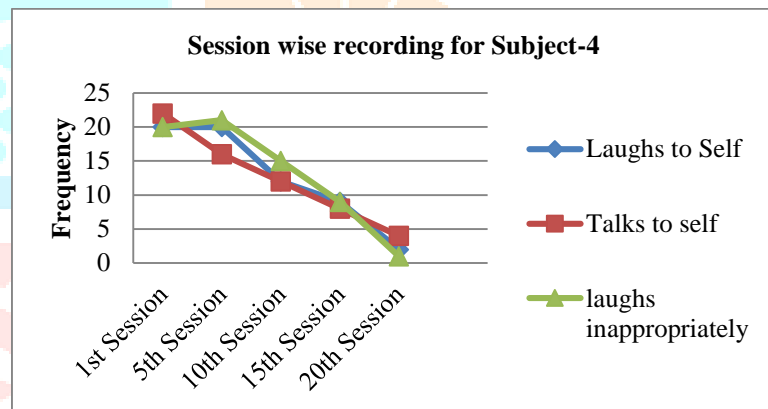
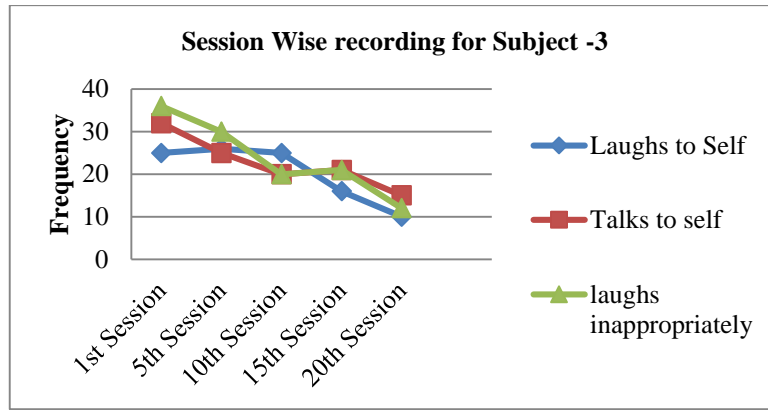


Table 2 data showing the percentage of the pre and post test scores of the problem behaviour after intervention of vocal music. Right after the intervention programme the students showed reduced number of odd behaviour which were significant. In a study done by Lenovaz , et al; (2014) reported that sequential intervention model to facilitate the initial and subsequent selection of an intervention most likely to reduce vocal stereotypy while producing desired collateral outcomes where music plays a vital intervention part as intervention model.

Time series was done to see the difference in session wise scores of selected problem behaviours.



Peris (2006); Cihak, et.al. (2006) reported their study result through session wise performances of the participants. In the present study there was no control group. Panerai, et.al 1998 also studied about the effectiveness of structured program without control group which supports the present study without any control group.



DISCUSSION

The reduction of the problem behaviour occurred due to sequential and rhythmic presentation and intervention of the vocal music along with jingles. These positive results also found due to appropriate and structured setting of the room, less environmental hazards, song and rhythm related to the levels of the students, appropriate presentation of reinforcement and researcher’s skills and hard working during the intervention program. The rate of occurrence of the problem behaviour during the sessions was compared and it was observed that all the subjects showed steady improvement in all sessions. Each subjects also acquired a new song with proper rhythm. There is very rare decline in their performances. Hence, it can be concluded that students need continuous and intervention through music for enhancing their communication skills and reducing problem behaviour also. Schwartz, R.W. et.al; (2017) reported in their literature review study that music is an effective strategy for increasing task engagement and performance and decreasing stimulatory behaviour for individuals with developmental disabilities. As a result of intervention students not only learned specific skills but associated learning also took place. Associated learning took place in areas of general skills which include skills such as waiting for won turn, ability to make choices from many given options, student’s performance duration, developing their social behaviour, making proper distance with others during conversation etc. In the area of communication students also showed

improvement in receptive and expressive communication – such as following instructions both related and unrelated skills of the activities, expressing feelings sentences etc.

Limitation: There were two limitations found in the above mentioned study are as follows:

- Less number of participants
- Intervention given only for limited periods of time

Further Study:

Further this study can be extended to record the occurrence of problem behaviours in all day to day life activities.

CONCLUSION

Music as a non-verbal form of communication and play addresses the core features of autism, such as social impairments, limited speech, stereotyped behaviours, sensory-perceptual impairments, and emotional dysregulation; thus music-based interventions are well established in therapy and education. Music therapy approaches are underpinned by behavioural, creative, sensory-perception, developmental, and educational theory and research. The effectiveness of music therapy in the treatment of children with autism spectrum disorder (ASD) is reflected by a huge number of studies and case reports. Therefore, we can conclude that lots of associated learning took place along with domain wise learning among students through music intervention. Rather than teaching behaviours directly, pre-requisite skills to that behaviour emergence are being evaluated and taught. Structured teaching address challenging behaviours in a proactive manner by creating appropriate and meaningful environments that reduce the stress, anxiety and frustration. Further this study can be extended to record the occurrence of problem behaviours in all day to day life activities.

REFERENCES

- Government of India, “ The Persons with Disabilities –Equal Opportunities , Protection of Right and Full Participation Act,1995 and replaced with RPWD Act,2016;MSJ&E, New Delhi
- [Kalgotra,R.](#) & [Warwal](#), J.S. (2017).Effect of Music Intervention on the Behaviour Disorders of Children with Intellectual Disability using Strategies from Applied Behaviour Analysis. *Disability, CBR and Inclusive Development*. 28(1):161-177
- Panerai, S., Ferrante, L., Caputo, V., and Impellizzeri, C. (1998). Use of Structured Teaching for the Treatment of Children with Autism and Severe and Profound Mental Retardation. *Education and Training in Mental retardation and Developmental Disabilities*, 33(4):367–374.
- See, C. M. (2012). The Use of Music and Movement Therapy to Modify Behaviour of Children with Autism. *Pertanika Journal of Social Sciences & Humanities*.20(4): 1103 - 1116
- Schwartz, R.W., Ayres, K.M. and Douglas, K.H. (2017).Effects of music on task performance, engagement, and behavior: A literature review. *Psychology of Music* .45(5): 611-627