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Letter to the Editor

Music therapy in a sleepless child with Pierre Robin sequence, partial trisomy 14 and partial monosomy 21

Originally described in 1923 by Pierre Robin, Pierre Robin sequence (PRS) is a condition characterized by a triad consisting of micrognathia, glossoptosis and breathing problems due to obstruction of the upper airway [1]. The prevalence of PRS is highly variable and reported to be between 1 in 2000 to 1 in 30,000 [2]. PRS can be found as isolated disease or in association with other syndromes such as Stickler syndrome, Fetal Alcohol Syndrome and Monosomy 22q11 or DiGeorge Syndrome [3]. Although the strong concurrence of Obstructive Sleep Apnea and PRS has been known, no previous study has reported other sleep problems and treatment approaches in these patients. To our knowledge, the present letter reports the first case of music therapy for difficulty falling asleep in an eight year-old girl with PRS, partial trisomy 14 and additional partial monosomy 21.

An eight year-old girl was referred to the creative music therapy clinic with complaints of difficulty falling asleep and staying asleep during night-time. Her parents were concerned about recurrent episodes of extended wakefulness and irregular sleep every night. Her medical history revealed the existence of PRS, partial trisomy 14, partial monosomy 21, microcephaly, and cleft palate. She had two previous surgeries: one for palatal cleft and one for orthopedic reasons. At the first session, she was brought into the music therapy room on wheelchair. She was mentally handicapped and emotionally unstable. Her parents explained that instrumental music was good for her but songs with lyrics led to crying and yelling. The patient had no ritualistic music listening. She was irritated and her breathing was loud and frequent. The therapist (DDO) first chose to play guitar (for three min), however the patient was agitated. After, the therapist placed the patient in her mother's lap in order to create a more comfortable and safe environment. A wind instrument (ie, harmonica) was then chosen. During this three-minute period, she started to smile, clap her hands and remained relaxed. Thereafter, a one-hour session was planned weekly for eight weeks. At the second session, patient's mother reported that she slept whole night after the first session but was sleepless on other days. From the second to the fifth sessions, the same approach was used. Briefly, starting with instrumental mirroring by harmonica and widening the melodic development, mezzoforte-piano-mezzoforte sequence was used for sound dynamism. At the third session when the music started the patient positioned herself in her mother's lap, touched her mother's face, smiled, stayed calm, closed her eyes and soon fell asleep. During the following sessions, the therapist strengthened the connection between mother and patient. At the end of the fourth session, regular sleep reportedly took place in five nights out of seven days.

Mentally retarded children typically exhibit poor sleep efficiency and restless periods during night. Management of such children includes oral melatonin administration to raise plasma melatonin levels which can accelerate sleep onset. However, other approaches such as music therapy are commonly neglected. A considerable bulk of evidence shows that music therapy provides beneficial effects in depression, agitation, and insomnia [4,5]. The music therapy intervention often starts with observation and evaluation to understand child's specific way of communication with outside world. General goals include bringing out child's communication potential, understanding, stimulation of language development, and motor coordination. In our case, freely improvised music was first used to establish a synchronization between therapist and client. The patient was in receptive mode, in other words, she was passive listener during the session. The structure and framework of music were used to communicate and change the client's emotional state. Then, music functioned as a trigger for sedation and sleep. Without using any sedative or hypnotic agent, the client changed her sleeping attitude at home and started to sleep more regularly during night time. To our knowledge, the effect of music therapy on sleep has not been studied in mentally handicapped pediatric patients. Currently, therapy mostly involves drugs and medicines that induce sleep in such patients. However, music therapy may be a strong non-pharmacological intervention in mentally-handicapped children with sleep problems.

Conflict of interest

The ICMJE Uniform Disclosure Form for Potential Conflicts of Interest associated with this article can be viewed by clicking on the following link: https://doi.org/10.1016/j.sleep.2018.08.004.

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