

AB008. Evaluation of the impact of an exercise-based intervention on sleep and wellbeing in children with neurodevelopmental disorders attending a community-based Sleep Clinic

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Abstract: Recommendations for improving sleep patterns in all children, including those with neurodevelopmental disorders, includes having a healthy level of physical exertion during the day, as this is known to help with sleep-onset and sleep efficiency in children (proportion of time in bed that is spent sleeping) [Dworak 2008]; the most common sleep-related difficulties encountered by the families in our cohort. A recent meta-analysis [Cerrillo-Urbina 2015] found that aerobic exercise had a moderate to large positive effect on several features of attention deficit hyperactivity disorder (ADHD), including hyperactivity, impulsivity, and executive functioning deficits, each of which is likely contributory to the night-time difficulties encountered in families of children with ADHD. This suggests aerobic exercise may provide an effective non-pharmacological intervention for managing such difficulties.

A focus group held with 6 parents of children attending a Special Needs Primary School (Southwark) concluded that all parents of children in this group (all children having a severe level of intellectual disability, four with co-morbid autism spectrum disorder) found it difficult to access out-of-school physical activities for their child, either due to there being a lack of groups specifically for children with significant neurodevelopmental impairments, or finding it difficult to access mainstream activities such as parks and playgrounds due to unpredictability as to how their child may interact with other families or cope with the setting. Many local sports initiatives for children with disabilities adopt a lower age limit of 8–11 years, which excludes a large number of the children seen in our clinic (mostly early primary school age), and misses an earlier window of opportunity for helping improve sleep patterns before sleep difficulties become entrenched and more difficult to adjust. The present project is therefore constructed with the aim of addressing this shortfall in services that would act as an intervention to improve sleep patterns in children in this group, with the potential added benefit of improved wellbeing to both child and family.

Keywords: Sleep pattern; sleep quality; attention deficit hyperactivity disorder (ADHD)

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