Approximately one in ten children in the US are diagnosed with attention deficit disorder (ADD) or attention deficit hyperactivity disorder (ADHD) (Centers for Disease Control [CDC], 2016). With a 5% average annual increase in incidence of ADD/ADHD since 2006, attention deficit is an issue that impacts large numbers of American children (CDC, 2016). Equally concerning is the impact of poor sleep, with an estimated 25-50% of children experiencing sleep problems before reaching adulthood (CDC, 2015). While it is well known that children with ADD/ADHD have associated sleeping problems, it is unclear how many children with similar symptoms have primary sleeping problems misdiagnosed as attention deficit disorders. Considering that the standard evaluation tools used in the diagnosis of attention deficit disorders (Vanderbilt Rating Scales, Connors’ Rating Scales, and ADHD Rating Scale IV) do not include adequate sleep measures, examining ways to appropriately evaluate sleep when evaluating children for attention deficit disorders provides an opportunity to improve the standard of care in pediatrics.

This poster presents a quality improvement project (DNP capstone) that examined current practice and subsequent implementation of a validated standardized sleep evaluation tool in the assessment of children with symptoms of attention deficit in a pediatric primary care practice. Aims of the project included: 1) Increase the rate of sleep screening in the evaluation of ADD/ADHD symptoms, 2) increase the referral rates to the affiliated sleep specialist, 3) evaluate the rate of diagnosis of sleep disorders, and 4) evaluate the rate of diagnosis of attention deficit disorders.

The project consisted of a retrospective chart review and subsequent implementation of the Children’s Sleep Habits Questionnaire (CSHQ) for children 6-14 years with attention deficit symptoms. Measures evaluated included rates of sleep screening, sleep referrals, diagnosis of sleep and attention deficit disorders, Vanderbilt scores, and CSHQ scores. The results of the project were as follows: Retrospective Group - N=41, 76% ADD/ADHD, 19.5% sleeping disorders, and significant provider differences in diagnosing sleep problems ($p=.007$); Intervention Group: N=5, 60% with abnormal CSHQ scores. The major limitation to this project was the small sample size in the Implementation Group, but the results still offer valuable insight into the existing sleep and attention deficit evaluation occurring among providers within the practice.

The project did identify a significant incidence of sleeping problems in children with symptoms of attention deficit and provider variation in sleep evaluation and diagnosis, with minimal referral to readily available specialist care. The findings of the project support the need for further investigation and a more comprehensive and standardized evaluation of sleep when assessing children for attention deficit disorders to improve appropriate referrals, diagnosis, and treatment in pediatrics.

- No funding was received for this project

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ABSTRACT
Approximately one in ten children in the US carry a diagnosis of an attention deficit disorder (ADD/ADHD) and an estimated 25-50% of children experience sleep problems before reaching adulthood. With the marked symptom overlap of these conditions and the lack of a standardized sleep evaluation tool used throughout pediatrics, cases of misdiagnosis are problematic. This evidence-based practice DNP project consists of implementation and evaluation of a standardized sleep evaluation tool (Children’s Sleep Health Questionnaire) in primary care visits assessing for attention deficit disorders in a large private pediatric practice. The project is currently in the implementation and data collection phase.

PURPOSE

To implement a standardized sleep evaluation tool in the assessment of children ages 6-14 years presenting with attention deficit-like symptoms or behaviors in a private pediatric primary care practice.

BACKGROUND
ADD/ADHD
5% average annual increase in incidence since 2006
$42.5 billion cost to US healthcare system

SLEEP
25-50% of children with sleep problems before adulthood
Consistent lack of sleep or sleep deprivation is associated with mood changes, inattentive behavior, irritability, aggression, and poor cognitive performance

PROJECT AIMS

❖ Increase the rate of sleep screening when evaluating for ADD/ADHD
❖ Increase referral rates for formal sleep evaluation
❖ Evaluate the rate of diagnosis of sleep disorders

METHODS

❖ PRE-POST DESIGN
  • Pre-group – September 1 – January 31, 2017
  • Post-group – September 1 – January 31, 2018

❖ SETTING
  • Pediatrics West, P.C. - private, for-profit pediatric primary care practice
  • Three suburban Boston, MA offices (Westford, Groton, and Fitchburg)
  • 17,000 patients
  • 868 visits for ADD/ADHD in 2016

❖ SAMPLE
  • Ages 6-14 years
  • First evaluation visit for attention deficit concerns

❖ Exclusion criteria
  • Prior diagnosis of mental illness or mental health condition (anxiety, depression, oppositional defiant disorder, etc.)
  • Refusal of sleep referral
  • Current use of stimulant medication

❖ High score → referral to in-house sleep specialist
❖ Normal score → ADD/ADHD evaluation proceeds

RESULTS

❖ 5% referral rate in Pre-Group Sample
❖ 60% referral rate in Post-Group Sample

PRACTICE IMPLICATIONS

❖ Need to evaluate sleep with ADD/ADHD presentation
  • The majority of children presenting with attention deficit symptoms had abnormal CSHQ scores

❖ A more comprehensive and standardized evaluation of sleep has potential to improve appropriate referrals, diagnosis, and treatment in primary care.
  • Marked provider variation in sleep evaluation in literature and in our project, general sleep screening variability, and comfort level with sleep diagnosis

❖ Need for formal recommendations on sleep evaluation to increase awareness of significance and evaluation rates

REFERENCES


