

# BÖLÜM 23

## ÇOCUK VE ERGENLERDE DİKKAT EKSİKLİĞİ HİPERAKTİVİTE BOZUKLUĞU VE UYKU

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### Giriş

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Dikkat eksikliği hiperaktivite bozukluğu (DEHB), gelişimsel olarak uygun olmayan düzeyde dikkatsizlik ve/veya hiperaktivite ve dürtüselliğin ile karakterize nörogelişimsel bir bozukluktur (1). Başlangıç yaşı, çocukluk çağında olsa da erkenlik ve erişkinlik dönemlerinde kalıcılık yaygındır. Çocukluk çağında DEHB'nin dünya çapındaki tahminî prevalansı %5'in üzerindedir (2). DEHB etiyolojisinde çok çeşitli genetik ve çevresel faktör rol oynar (3). DEHB; akademik, sosyal ve aile işlevsellığında bozulmalar ile karakterizedir. DEHB olan çocuk ve ergenlerin büyük bir bölümünde, en az bir tıbbi veya psikiyatrik bozukluk eşlik etmektedir (4). DEHB'li çocuklar üzerinde yapılan çalışmalarla, uykuya sorunlarının oranları büyük ölçüde değişmekle birlikte genellikle %25-70 arasında olduğu tahmin edilmektedir (5, 6). Düzensiz uykuya, Ruhsal Bozuklukların Tanısal ve İstatistiksel El Kitabı (DSM) üçüncü versiyonunda, "çocuklukta hiperkinetik reaksiyon" veya "dikkat eksikliği bozukluğu"nun bir özelliği olarak belirtilmiştir (7). Uykuya bozuklukları artık DEHB için tanı kriterleri arasında yer almasa da son zamanlarda uykuya ve DEHB arasındaki ilişkiyi inceleyen çalışmalar büyük artış göstermiştir. Uykuya bozukluğu ve DEHB arasındaki ilişki muhtemelen iki yönlüdür (8). Yetersiz uykuya, DEHB'nin klinik özelliklerine benzer bulgulara (dikkat bozukluğu, zayıf dürtü kontrolü, hiperaktivite gibi) neden olabilir. Diğer yandan hem DEHB'nin kendisinden dolayı hem de diğer psikiyatrik bozuklıkların sık

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sorunlarına neden olabilir. Bu yüzden, iyi bir şekilde değerlendirilmeleri ve tedavi edilmeleri gereklidir. DEHB ile ilişkili uyku bozukluklarının etkin tedavisi, uyku ile ilgili semptomları azaltmasının yanı sıra hem çocukların hem de ebeveynlerin yaşam kalitesini iyileştirmektedir.

## Kaynaklar

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1. Edition F. Diagnostic and statistical manual of mental disorders. *Am Psychiatric Assoc.* 2013;21.
2. Polanczyk GV, Willcutt EG, Salum GA, et al. ADHD prevalence estimates across three decades: an updated systematic review and meta-regression analysis. *International journal of epidemiology.* 2014;43(2):434-442.
3. Thapar A, Cooper M, Eyre O, et al. Practitioner review: what have we learnt about the causes of ADHD? *Journal of Child Psychology and Psychiatry.* 2013;54(1):3-16.
4. Hodgkins P, Setyawan J, Mitra D, et al. Management of ADHD in children across Europe: patient demographics, physician characteristics and treatment patterns. *European journal of pediatrics.* 2013;172(7):895-906.
5. Kirov R, Brand S. Sleep problems and their effect in ADHD. *Expert review of neurotherapeutics.* 2014;14(3):287-299.
6. Yoon SYR, Jain U, Shapiro C. Sleep in attention-deficit/hyperactivity disorder in children and adults: past, present, and future. *Sleep medicine reviews.* 2012;16(4):371-388.
7. American Psychiatric Association A. Diagnostic and statistical manual of mental disorders: American Psychiatric Association Washington, DC; 1980.
8. Hvolby A. Associations of sleep disturbance with ADHD: implications for treatment. *ADHD Attention Deficit and Hyperactivity Disorders.* 2015;7(1):1-18.
9. Cortese S, Faraone SV, Konofal E, et al. Sleep in children with attention-deficit/hyperactivity disorder: meta-analysis of subjective and objective studies. *Journal of the American Academy of Child & Adolescent Psychiatry.* 2009;48(9):894-908.
10. Virring A, Lambek R, Thomsen PH, et al. Disturbed sleep in attention-deficit hyperactivity disorder (ADHD) is not a question of psychiatric comorbidity or ADHD presentation. *Journal of sleep research.* 2016;25(3):333-340.
11. Fisher BC, Garges DM, Yoon SYR, et al. Sex differences and the interaction of age and sleep issues in neuropsychological testing performance across the lifespan in an ADD/ADHD sample from the years 1989 to 2009. *Psychological reports.* 2014;114(2):404-438E.
12. Langberg JM, Molitor SJ, Oddo LE, et al. Prevalence, patterns, and predictors of sleep problems and daytime sleepiness in young adolescents with ADHD. *Journal of attention disorders.* 2020;24(4):509-523.
13. Gruber R. Sleep characteristics of children and adolescents with attention deficit-hyperactivity disorder. *Child and Adolescent Psychiatric Clinics.* 2009;18(4):863-876.
14. Corkum P, Moldofsky H, Hogg-Johnson S, et al. Sleep problems in children with attention-deficit/hyperactivity disorder: impact of subtype, comorbidity, and stimulant medication. *Journal of the American Academy of Child & Adolescent Psychiatry.* 1999;38(10):1285-1293.
15. Chiang HL, Gau SSF, Ni HC, et al. Association between symptoms and subtypes of attention-deficit hyperactivity disorder and sleep problems/disorders. *Journal of sleep research.* 2010;19(4):535-545.
16. Gruber R, Grizenko N, Schwartz G, et al. Sleep and COMT polymorphism in ADHD children: preliminary actigraphic data. *Journal of the American Academy of Child & Adolescent Psychiatry.* 2006;45(8):982-989.



17. Coogan AN, McGowan NM. A systematic review of circadian function, chronotype and chronotherapy in attention deficit hyperactivity disorder. *ADHD Attention Deficit and Hyperactivity Disorders*. 2017;9(3):129-147.
18. Durmuş FB, Arman AR, Ayaz AB. Chronotype and its relationship with sleep disorders in children with attention deficit hyperactivity disorder. *Chronobiology international*. 2017;34(7):886-894.
19. der Heijden KBV, Smits MG, Van Someren EJ, et al. Effect of melatonin on sleep, behavior, and cognition in ADHD and chronic sleep-onset insomnia. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2007;46(2):233-241.
20. Cortese S, Brown TE, Corkum P, et al. Assessment and management of sleep problems in youths with attention-deficit/hyperactivity disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2013;52(8):784-796.
21. Hvolby A, Jørgensen J, Bilenberg N. Parental rating of sleep in children with attention deficit/hyperactivity disorder. *European child & adolescent psychiatry*. 2009;18(7):429-438.
22. Cortese S, Konofal E, Lecendreux M. Alertness and feeding behaviors in ADHD: does the hypocretin/orexin system play a role? *Medical hypotheses*. 2008;71(5):770-775.
23. Lucas I, Mulraney M, Sciberras E. Sleep problems and daytime sleepiness in children with ADHD: Associations with social, emotional, and behavioral functioning at school, a cross-sectional study. *Behavioral sleep medicine*. 2017.
24. Lecendreux M, Lavault S, Lopez R, et al. Attention-deficit/hyperactivity disorder (ADHD) symptoms in pediatric narcolepsy: a cross-sectional study. *Sleep*. 2015;38(8):1285-1295.
25. Sedky K, Bennett DS, Carvalho KS. Attention deficit hyperactivity disorder and sleep disordered breathing in pediatric populations: a meta-analysis. *Sleep medicine reviews*. 2014;18(4):349-356.
26. Youssef NA, Ege M, Angly SS, et al. Is obstructive sleep apnea associated with ADHD. *Ann Clin Psychiatry*. 2011;23(3):213-224.
27. Johnson EO, Roth T. An epidemiologic study of sleep-disordered breathing symptoms among adolescents. *Sleep*. 2006;29(9):1135-1142.
28. Wu J, Gu M, Chen S, et al. Factors related to pediatric obstructive sleep apnea-hypopnea syndrome in children with attention deficit hyperactivity disorder in different age groups. *Medicine*. 2017;96(42).
29. Cortese S, Sun S, Zhang J, et al. Association between attention deficit hyperactivity disorder and asthma: a systematic review and meta-analysis and a Swedish population-based study. *The Lancet Psychiatry*. 2018;5(9):717-726.
30. Soylu E, Soylu N, Yıldırım YS, et al. Psychiatric disorders and symptoms severity in patients with adenotonsillar hypertrophy before and after adenotonsillectomy. *International journal of pediatric otorhinolaryngology*. 2013;77(10):1775-1781.
31. Sivertsen B, Harvey AG, Pallesen S, et al. Mental health problems in adolescents with delayed sleep phase: results from a large population-based study in Norway. *Journal of sleep research*. 2015;24(1):11-18.
32. Gruber R, Fontil L, Bergmame L, et al. Contributions of circadian tendencies and behavioral problems to sleep onset problems of children with ADHD. *BMC psychiatry*. 2012;12(1):1-11.
33. Van der Heijden K, Stoffelsen R, Popma A, et al. Sleep, chronotype, and sleep hygiene in children with attention-deficit/hyperactivity disorder, autism spectrum disorder, and controls. *European child & adolescent psychiatry*. 2018;27(1):99-111.
34. Gau SS-F, Chiang H-L. Sleep problems and disorders among adolescents with persistent and subthreshold attention-deficit/hyperactivity disorders. *Sleep*. 2009;32(5):671-679.
35. Schredl M, Sartorius H. Dream recall and dream content in children with attention deficit/hyperactivity disorder. *Child psychiatry & human development*. 2010;41(2):230-238.



36. Grünwald J, Schlarb AA. Relationship between subtypes and symptoms of ADHD, insomnia, and nightmares in connection with quality of life in children. *Neuropsychiatric disease and treatment*. 2017;13:2341.
37. Picchietti DL, Bruni O, de Weerd A, et al. Pediatric restless legs syndrome diagnostic criteria: an update by the International Restless Legs Syndrome Study Group. *Sleep medicine*. 2013;14(12):1253-1259.
38. Kwon S, Sohn Y, Jeong S-H, et al. Prevalence of restless legs syndrome and sleep problems in Korean children and adolescents with attention deficit hyperactivity disorder: a single institution study. *Korean journal of pediatrics*. 2014;57(7):317.
39. Angriman M, Cortese S, Bruni O. Somatic and neuropsychiatric comorbidities in pediatric restless legs syndrome: A systematic review of the literature. *Sleep medicine reviews*. 2017;34:34-45.
40. Pullen SJ, Wall CA, Angstman ER, et al. Psychiatric comorbidity in children and adolescents with restless legs syndrome: a retrospective study. *Journal of Clinical Sleep Medicine*. 2011;7(6):587-596.
41. Konofal E, Cortese S, Marchand M, et al. Impact of restless legs syndrome and iron deficiency on attention-deficit/hyperactivity disorder in children. *Sleep medicine*. 2007;8(7-8):711-715.
42. Cortese S, Adamo N, Del Giovane C, et al. Comparative efficacy and tolerability of medications for attention-deficit hyperactivity disorder in children, adolescents, and adults: a systematic review and network meta-analysis. *The Lancet Psychiatry*. 2018;5(9):727-738.
43. Kidwell KM, Van Dyk TR, Lundahl A, et al. Stimulant medications and sleep for youth with ADHD: a meta-analysis. *Pediatrics*. 2015;136(6):1144-1153.
44. De Crescenzo F, Licchelli S, Ciabattini M, et al. The use of actigraphy in the monitoring of sleep and activity in ADHD: A meta-analysis. *Sleep medicine reviews*. 2016;26:9-20.
45. Block SL, Kelsey D, Coury D, et al. Once-daily atomoxetine for treating pediatric attention-deficit/hyperactivity disorder: comparison of morning and evening dosing. *Clinical pediatrics*. 2009;48(7):723-733.
46. Spencer TJ, Greenbaum M, Ginsberg LD, et al. Safety and effectiveness of coadministration of guanfacine extended release and psychostimulants in children and adolescents with attention-deficit/hyperactivity disorder. *Journal of child and adolescent psychopharmacology*. 2009;19(5):501-510.
47. Subcommittee on Attention-Deficit/Hyperactivity Disorder SCoQI, Management. ADHD: clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. Am Acad Pediatrics; 2011.
48. Graham J, Banaschewski T, Buitelaar J, et al. European guidelines on managing adverse effects of medication for ADHD. *European child & adolescent psychiatry*. 2011;20(1):17-37.
49. Lazarus M, Chen J-F, Urade Y, et al. Role of the basal ganglia in the control of sleep and wakefulness. *Current opinion in neurobiology*. 2013;23(5):780-785.
50. Owens J, Gruber R, Brown T, et al. Future research directions in sleep and ADHD: report of a consensus working group. *Journal of attention disorders*. 2013;17(7):550-564.
51. Faraone SV, Po MD, Komolova M, et al. Sleep-associated adverse events during methylphenidate treatment of attention-deficit/hyperactivity disorder: A meta-analysis. *The Journal of clinical psychiatry*. 2019;80(3):0-0.
52. Corkum P, Panton R, Ironside S, et al. Acute impact of immediate release methylphenidate administered three times a day on sleep in children with attention-deficit/hyperactivity disorder. *Journal of Pediatric Psychology*. 2008;33(4):368-379.
53. Becker SP, Froehlich TE, Epstein JN. Effects of methylphenidate on sleep functioning in children with attention-deficit/hyperactivity disorder. *Journal of developmental and behavioral pediatrics: JDBP*. 2016;37(5):395.
54. Golan N, Shahar E, Ravid S, et al. Sleep disorders and daytime sleepiness in children with attention-deficit/hyperactive disorder. *Sleep*. 2004;27(2):261-266.



55. Chattoor I, Wells KC, Conners CK, et al. The effects of nocturnally administered stimulant medication on EEG sleep and behavior in hyperactive children. *Journal of the American Academy of Child Psychiatry*. 1983;22(4):337-342.
56. Solleveld MM, Schranter A, Baek HK, et al. Effects of 16 weeks of methylphenidate treatment on actigraph-assessed sleep measures in medication-naïve children with ADHD. *Frontiers in psychiatry*. 2020;11:82.
57. Garnock-Jones KP, Keating GM. Atomoxetine. *Pediatric Drugs*. 2009;11(3):203-226.
58. Sangal RB, Owens J, Allen AJ, et al. Effects of atomoxetine and methylphenidate on sleep in children with ADHD. *Sleep*. 2006;29(12):1573-1585.
59. Newcorn JH, Kratochvil CJ, Allen AJ, et al. Atomoxetine and osmotically released methylphenidate for the treatment of attention deficit hyperactivity disorder: acute comparison and differential response. *American Journal of Psychiatry*. 2008;165(6):721-730.
60. Faraone SV, McBurnett K, Sallee FR, et al. Guanfacine extended release: a novel treatment for attention-deficit/hyperactivity disorder in children and adolescents. *Clinical therapeutics*. 2013;35(11):1778-1793.
61. Cortese S, Holtmann M, Banaschewski T, et al. Practitioner review: current best practice in the management of adverse events during treatment with ADHD medications in children and adolescents. *Journal of Child Psychology and Psychiatry*. 2013;54(3):227-246.
62. Konofal E, Lecendreux M, Cortese S. Sleep and ADHD. *Sleep medicine*. 2010;11(7):652-658.
63. Weiss MD, Wasdell MB, Bomben MM, et al. Sleep hygiene and melatonin treatment for children and adolescents with ADHD and initial insomnia. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2006;45(5):512-519.
64. Behavioral treatment of bedtime problems and night wakings in infants and young children. *Sleep*. 2006;29(10):1263-1276.
65. Vriend J, Corkum P. Clinical management of behavioral insomnia of childhood. *Psychology research and behavior management*. 2011;4:69.
66. Keshavarzi Z, Bajoghli H, Mohamadi MR, et al. In a randomized case-control trial with 10-years olds suffering from attention deficit/hyperactivity disorder (ADHD) sleep and psychological functioning improved during a 12-week sleep-training program. *The world journal of biological psychiatry*. 2014;15(8):609-619.
67. Hiscock H, Mulraney M, Heussler H, et al. Impact of a behavioral intervention, delivered by pediatricians or psychologists, on sleep problems in children with ADHD: a cluster-randomized, translational trial. *Journal of Child Psychology and Psychiatry*. 2019;60(11):1230-1241.
68. Konofal E, Lecendreux M, Deron J, et al. Effects of iron supplementation on attention deficit hyperactivity disorder in children. *Pediatric neurology*. 2008;38(1):20-26.
69. Picchietti MA, Picchietti DL. Advances in pediatric restless legs syndrome: Iron, genetics, diagnosis and treatment. *Sleep medicine*. 2010;11(7):643-651.
70. Kratochvil CJ, Lake M, Pliszka SR, et al. Pharmacological management of treatment-induced insomnia in ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2005;44(5):499.
71. Prince JB, Wilens TE, Biederman J, et al. Clonidine for sleep disturbances associated with attention-deficit hyperactivity disorder: a systematic chart review of 62 cases. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1996;35(5):599-605.