Adopted as Amended

2023-5

RESOLUTION

Subject: Caution in Pediatric Use of Melatonin

Submitted by: Margo Nelis, Michael Nichols, Maggie Stull (Medical Student Section)

Referred to: Reference Committee

WHEREAS, up to 25% of healthy children and adolescents, as well as up to 75% of children and adolescents with neurodevelopmental and/or psychiatric conditions experience difficulty with sleep[1]; and

WHEREAS, melatonin is a naturally occurring hormone that regulates sleep[2]; and

WHEREAS, melatonin is sold as a prescription medication in European countries but as an over the counter (OTC) supplement in the United States (US)[3]; and

WHEREAS, melatonin is considered by the FDA to be a dietary supplement, so it adheres to looser regulations than other OTC and prescription medications[2,8]; and

WHEREAS, the use of melatonin in children has increased over the past decades, with a 2022 study indicating that sales of melatonin in the US have increased by approximately 150% from between 2016 and 2020, making melatonin the second most popular “natural” product parents give to their children after multivitamins[2, 4, 8]; and

WHEREAS, the greatest variation, ranging from less than ½ to more than 4 times the stated amount, in melatonin levels is found in chewable tablets or gummies, which children are most likely to take[2, 8]; and

WHEREAS, the use of pediatric melatonin may result in ingestion of unpredictable quantities of melatonin, which may lead to an overdose[5]; and

WHEREAS, the symptoms of a melatonin overdose include excessive sleepiness, headaches, nausea, and/or agitation[2]; and

WHEREAS, from 2012 to 2021, pediatric melatonin overdoses were responsible for 4,097 hospitalizations, 287 intensive care unit admissions, and 2 deaths[5]; and

WHEREAS, in 2020, melatonin became the most frequently ingested substance among children reported to national poison control centers[6]; and

WHEREAS, pediatric melatonin ingestion accounted for 4.9% of all pediatric ingestions reported to poison control centers in 2021, compared to 0.6% in 2012[6]; and

WHEREAS, the long-term effects of melatonin use in pediatric populations have not been studied, which gives rise to concerns about the effects of melatonin on growth and development, especially during puberty, and interactions with prescription medications[7]; now, therefore, be it

RESOLVED, that KMA encourage caution in consumption of melatonin in pediatric populations; and be it further

RESOLVED, that KMA promote physician-led education to caregivers regarding pediatric use of melatonin.

References:

[1] Janjua, Irvin, and Ran D Goldman. “Sleep-related melatonin use in healthy children.” Canadian family physician Medecin de famille canadien vol. 62,4 (2016): 315-7.

[2] McCarthy, Claire. “New Advice on Melatonin Use in Children.” Harvard Health, 6 Oct. 2022, www.health.harvard.edu/blog/new-advice-on-melatonin-use-in-children-202210062832.

[3] Skrzelowski, Michelle, et al. “Melatonin Use in Pediatrics: Evaluating the Discrepancy in Evidence Based on Country and Regulations Regarding Production.” The Journal of Pediatric Pharmacology and Therapeutics, vol. 26, no. 1, 2021, pp. 4–20, https://doi.org/10.5863/1551-6776-26.1.4.

[4] “Melatonin: What You Need to Know.” National Center for Complementary and Integrative Health, July 2022, www.nccih.nih.gov/health/melatonin-what-you-need-to-know.

[5] Faust, Jeremy. “Melatonin Gummy Labels Often Inaccurate. but That’s Not Why Thousands of Kids Have Been Hospitalized after Accidental Overdoses.” Melatonin Gummy Labels Often Inaccurate. But That’s Not Why Thousands of Kids Have Been Hospitalized after Accidental Overdoses., 28 Apr. 2023, insidemedicine.substack.com/p/melatonin- gummy-labels-often-inaccurate?utm_source=post-email-title&publication_id=1183526&post_id=117773076&isFreemail=true&ut m_medium=email.

[6] Lelak, Karima, et al. “Pediatric Melatonin Ingestions - United States, 2012–2021.” Centers for Disease Control and Prevention, 2 June 2022, www.cdc.gov/mmwr/volumes/71/wr/mm7122a1.htm.

[7] Esparham , Anna. “Melatonin for Kids: What Parents Should Know about This Sleep Aid.” HealthyChildren.Org, 27 Apr. 2023, www.healthychildren.org/English/healthy- living/sleep/Pages/melatonin-and-childrens-sleep.aspx#:~:text=Melatonin%20supplement%20dosages%20for%20kids&text=Start%20with%20the%20lowest%20dosage,to%206%20mg%20of%20melatonin.

[8] AASM Executive Committee. “Health Advisory: Melatonin Use in Children and Adolescents.” American Academy of Sleep Medicine – Association for Sleep Clinicians and Researchers, 13 Mar. 2023, aasm.org/advocacy/position-statements/melatonin-use-in- children-and-adolescents-health-advisory/.