

EYE RESEARCH CENTER

FALL 2021 E-NEWSLETTER



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Author

Mashaeh AL-Namaeh, OD., MS., PhD, FAAO, Dipl ABO

Title

Pediatric Melatonin Ingestion During COVID-19

Summary

Melatonin is the primary hormone produced by the pineal gland and the eyes. It is also known as 5-methoxy-N-acetyltryptamine. Light stimulation of the retina, particularly through intrinsically photosensitive retinal ganglion cells, has a huge impact on melatonin synthesis and release from the pineal gland. It is a neurohormone that regulates many circadian functions, including sleep, neuroendocrine rhythms, and body temperature cycles. It has been used to make people sleepy and tired. It has been used in children with a variety of developmental, neuropsychiatric, and health issues, as well as melatonin deficiency. This supplement may also help children aged 19 and under who are unable to sleep. During the COVID-19 pandemic, however, there was an increase in the number of children who ingested melatonin. According to COVID-19 and Pediatric ingestions, there were 861,626 ingestions of dangerous substances in children during the pandemic period. Teens accounted for approximately 13.3% of the ingestions. Intentional ingestion accounted for 10.8% of pandemic period calls. The authors speculated that these increases could be attributed to emotional, social, and psychological stressors on this age group, emphasizing the importance of additional emotional supports for adolescents. Based on this information, we recommend that you inquire about the use of melatonin, particularly in pediatric patients.

Publication Information

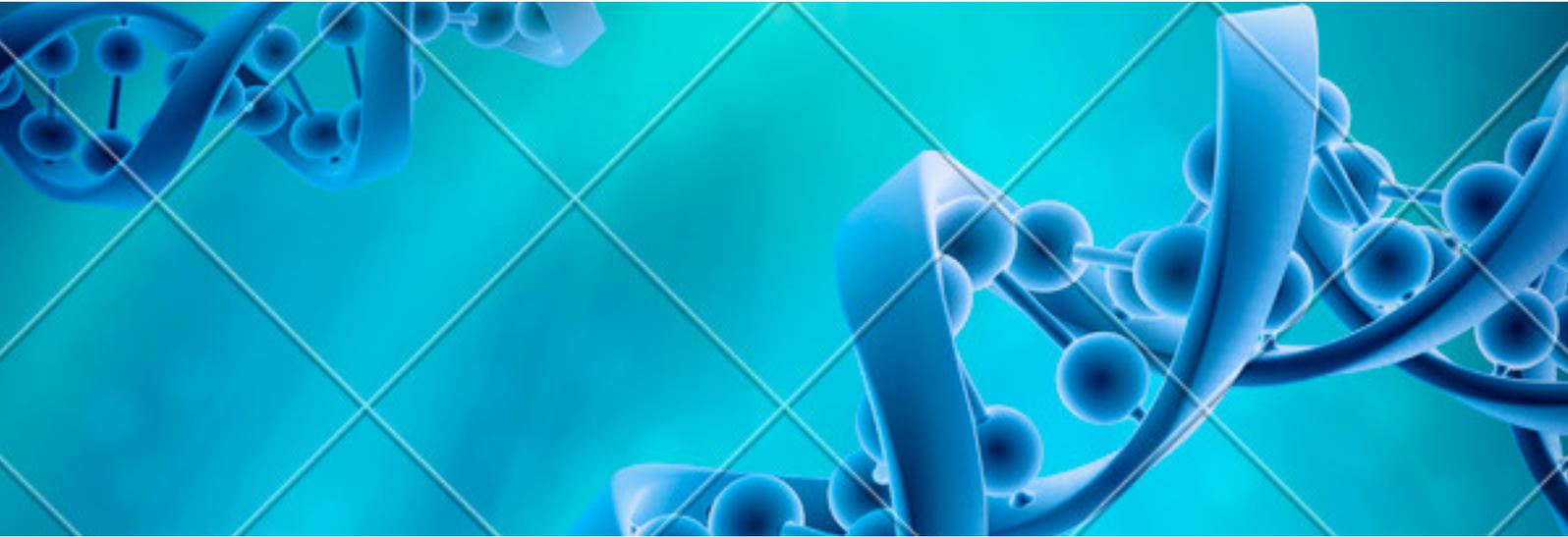
1.Riha RL. The use and misuse of exogenous melatonin in the treatment of sleep disorders. *Curr Opin Plum Med.* 2018; 24(6):543-548. Doi: 10.1097/MCP.0000000000000522.

2.Karima A. Lelak, Varun Vohra, Mark I. Neuman, Ahmed Farooqi, Michael S. Toce and Usha Sethuraman. *Pediatrics* July 2021, 148 (1) e2021051001; DOI: <https://doi.org/10.1542/peds.2021-051001>

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Research News

Author

Jessica Steen OD, FAAO, Dipl. ABO

Title

Glaucoma and Genetics

Summary

As a highly heritable disease, primary open angle glaucoma is a prime target for improved understanding of genetic risk factors which lead to disease development and for the development of new therapeutic targets. In the majority of patients who develop glaucoma, disease development is due to complex genetics: the interaction of many genes, each of which contributes a small amount of risk, but none of which that cause disease on their own. So far, 127 loci have been identified which may contribute directly to primary open angle glaucoma pathogenesis, influence biological pathways which contribute to disease development, or which contribute to disease-associated features including elevated intraocular pressure. In the near future, development of a polygenetic risk score for an individual which takes into account the impact of all strong and weak genetic risk factors for disease development may be incorporated into the clinical picture of assessment of an individual's risk for disease development.

The current loci which have been identified likely represent the tip of the iceberg of all loci which are important in development of primary open angle glaucoma. The application of deep learning will allow for processing of this 'big data' to allow scientists to discover trends in the data which would not otherwise be possible. While important and very exciting from a research perspective, genetic evaluation for risk assessment of development of primary open angle glaucoma is not yet ready for application in a clinical environment, but is a promising new approach that will add to our ability to predict disease development and form the foundation for new therapeutic targets in the future.

Publication Information

1.Gharahkhani P, Jorgenson E, Hysi P, et al. Genome-wide meta-analysis identifies 127 open-angle glaucoma loci with consistent effect across ancestries. Nat Commun. 2021 Feb 24;12(1):1258.

On October 4th, 2021 there were 43.85 million cases and 703,278 deaths in the United States.

For more information please visit : CDC COVID Data Tracker



Upcoming Events

Research Course A-Z I

Research Course A-Z II

Check the website for registration info.

2022 Webinar TBD

Profits from selected events will be contributed to apda in the amount of 30%.

Partnership



Eye Research Center
295 E Swedesford # 119
Wayne, PA 19087
Staff@eyeresearchcenter.org
www.eyeresearchcenter.org

