The relevance of adapting medical terminology for patients and physicians in the field of physiology of circadian rhythms

N.R. Bakhtieva

Samara State Medical University (Advanced Medical Engineering School), Samara, Russia,
Samara State Technical University, Samara, Russia

Background. The complexity of medical terminologies poses significant challenges for lay individuals in grasping essential concepts, highlighting a crucial need to promote patient literacy across medical disciplines.

Aim. This study seeks to underscore the value of enhancing patient understanding through tailored medical terminology, emphasizing its relevance and benefits to both medical professionals and patients.

Methods. Advantages of Understanding Medical Terms. Adapting medical terms serves as a cornerstone for effective communication among physicians, researchers, and patients, fostering heightened patient comprehension and compliance with treatment directives. This adaptation fundamentally enhances patient engagement and therapeutic outcomes.

Key Terms in Daily Biorhythms Physiology. Exploration into fundamental terminologies revolved around daily biorhythms physiology reveals pivotal concepts essential for comprehending physiological processes:

1. Individual Daily Biorhythms [1]: natural fluctuations in bodily physiological processes throughout the day.
2. Melatonin (Sleep Hormone): hormone responsible for regulating sleep and wakefulness [2].
3. Mesorhythm: stable part of the circadian rhythm, characterizing the average value of physiological parameters.
4. Circadian oscillator: the internal biological clock [3] of a person.
5. Chronotype: individual features of the circadian rhythms of the body.
6. Desynchronosis [4]: violation or malfunction of circadian rhythms.

Results. Ensuring Patient Understanding through Term Explanations. Given the foundational significance of these terms in decoding the intricacies of daily biorhythms physiology, a proposal to develop a comprehensive manual (figure 1) encapsulating these key terms and their explanations is advocated. Such an educational tool is poised to elevate patient comprehension, empowering individuals to grasp their diagnoses and adhere more effectively to medical guidance.

Conclusion. The initiation of a booklet creation is part of a broader initiative aimed at developing an application dedicated to regulating circadian rhythms. This endeavor represents a comprehensive approach embracing

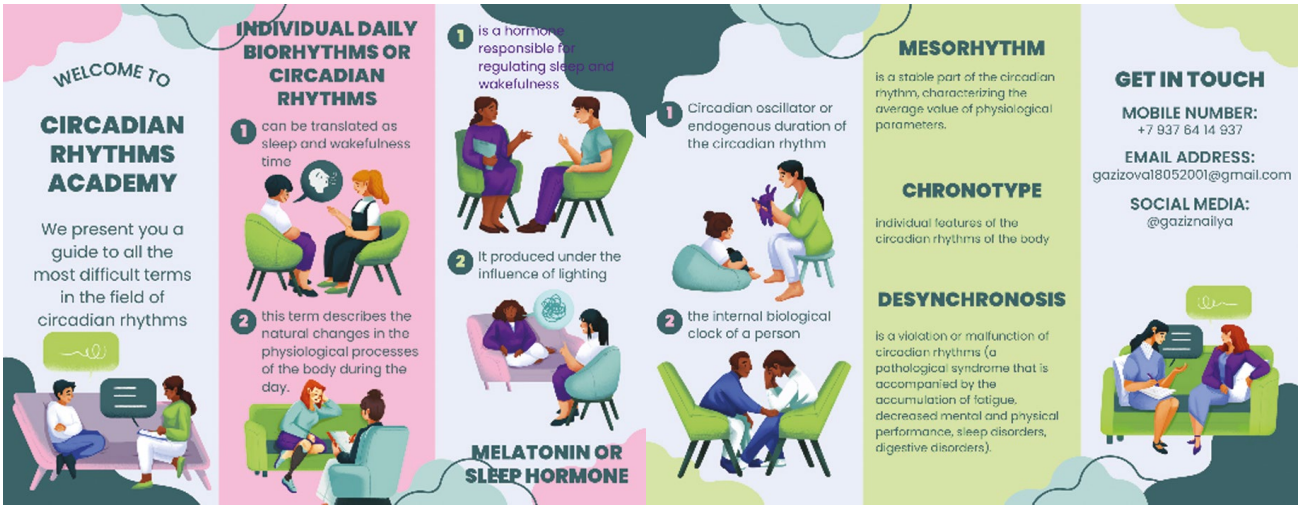

Fig. 1. Example of a booklet with terms

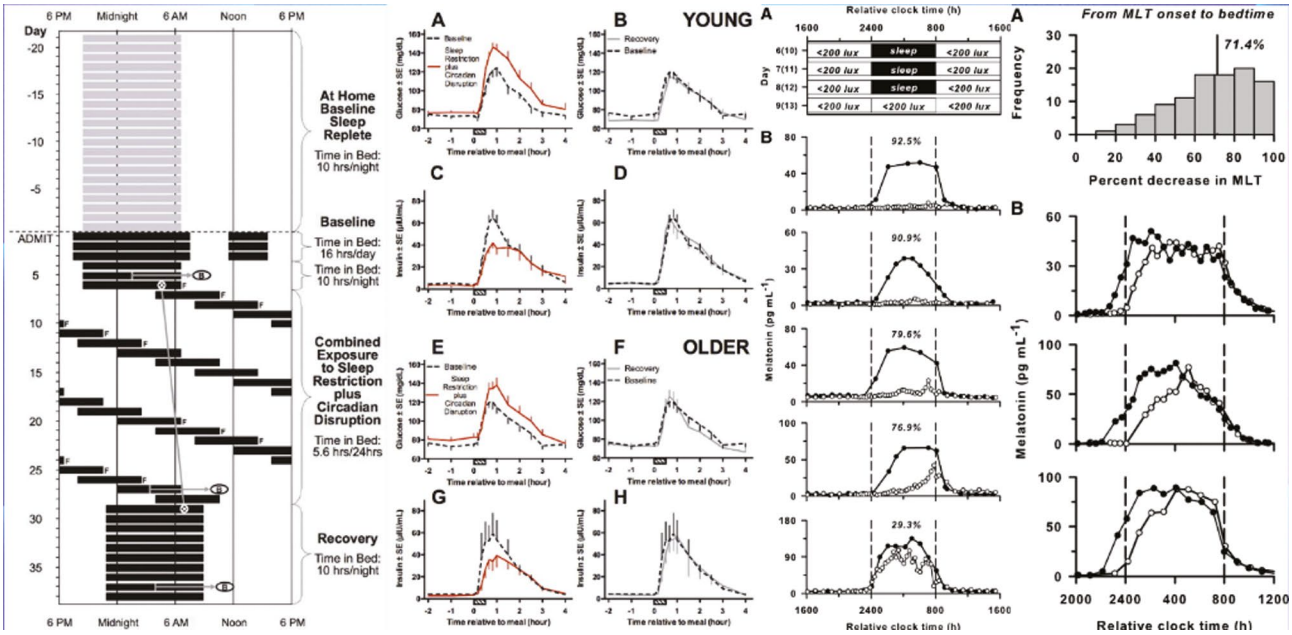

Fig. 2. Graphical representation of the results of the study

scientific exploration, grassroots research, strategic planning, and product development to facilitate optimal healthcare outcomes for physicians and patients alike.

As this project progresses, the incorporation of scientific findings, personalized investigations (Figure 2), strategic conceptualization [5], competitive analyses [6], and application development [7] underscores a commitment to advancing medical care delivery. By aiding physicians and patients in enhancing treatment efficacy and health outcomes, this endeavor aligns with the core objective of promoting improved healthcare and patient well-being.

Keywords: circadian rhythms; sleep quality; health; monitoring; sleep regulation; mobile application; machine learning; user recommendations; market analysis; multitasking.

References

1. Knutson K.L., von Schantz M. Associations between chronotype, morbidity and mortality in the UK Biobank cohort // Chronobiol Int. 2018. Vol. 35, N 8. P. 1405–1413. doi: 10.1080/07420528.2018.1454458
2. Roenneberg T., Allebrandt K.V., Merrow M., et al. Social jetlag and obesity // J Current Biol. 2013. Vol. 22, N 10. P. 939–943. doi: 10.1016/j.cub.2012.03.038
3. Merikanto I., Lahti T., Puolijoki H., et al. Associations of chronotype and sleep with cardiovascular diseases and type 2 diabetes // Chronobiol Int. 2019. Vol. 30, N 4. P. 470–477. doi: 10.3109/07420528.2012.741171
4. IARC Monographs Meeting 124: Night Shift Work (4–11 June 2019). Questions and Answers. Режим доступа: https://www.iarc.who.int/wp-content/uploads/2019/07/QA_Monographs_Volume124.pdf. Дата обращения: 11.12.2023.
5. Газизова Н.Р. Система электронного обучения Decidium. В кн.: Дни науки — 2022. 77-я научно-техническая конференция обучающихся СамГТУ: сборник тезисов докладов / под ред. М.В. Ненашева. Самара: Самарский государственный технический университет, 2022. С. 16–17.
6. Газизова Н.Р., Камальдинова З.Ф. Современные решения при постановке задачи разработки образовательной онлайн-платформы. В кн.: Цифровые технологии: настоящее и будущее. Сборник статей Национальной научно-практической конференции с международным участием / под ред. Е.В. Вишневской. Тольятти: Тольяттинская академия управления, 2022. С. 79–87. EDN: WNLFJS
7. Газизова Н.Р., Камальдинова З.Ф. Проектирование платформы для онлайн-обучения. В кн.: Информационные системы и технологии (ИСТ 2023). Труды научно-технической конференции с международным участием. Самара, 2023. Самара: Самарский научный центр РАН, 2023. С. 289–292. EDN: ARWKSA

Information about author:

Nailya R. Bakhtieva — student, group 107M, Artificial Intelligence Engineering, Samara State Medical University (Advanced Medical Engineering School), Samara State Technical University, Samara, Russia. E-mail: gazizova18052001@gmail.com

Information about the scientific supervisor:

Natalia V. Startseva — Associate Professor of the Department of "Foreign Languages"; Samara State Technical University, Samara, Russia. E-mail: startseva0507@gmail.com