

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



МАТЕРІАЛИ

101 – ї

підсумкової наукової конференції

професорсько-викладацького персоналу

Вищого державного навчального закладу України

«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

10, 12, 17 лютого 2020 року

Чернівці – 2020

УДК 001:378.12(477.85)

ББК 72:74.58

М 34

Матеріали 101 – ї підсумкової наукової конференції професорсько-викладацького персоналу вищого державного навчального закладу України «Буковинський державний медичний університет» (м. Чернівці, 10, 12, 17 лютого 2020 р.) – Чернівці: Медуніверситет, 2020. – 488 с. іл.

ББК 72:74.58

У збірнику представлені матеріали 101 – ї підсумкової наукової конференції професорсько-викладацького персоналу вищого державного навчального закладу України «Буковинський державний медичний університет» (м.Чернівці, 10, 12, 17 лютого 2020 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

Загальна редакція: професор Бойчук Т.М., професор Іващук О.І.,
доцент Безрук В.В.

Наукові рецензенти:

професор Братенко М.К.

професор Булик Р.Є.

професор Гринчук Ф.В.

професор Давиденко І.С.

професор Дейнека С.Є.

професор Денисенко О.І.

професор Заморський І.І.

професор Колоскова О.К.

професор Коновчук В.М.

професор Пенішкевич Я.І.

професор Сидорчук Л.П.

професор Слободян О.М.

професор Ткачук С.С.

професор Тодоріко Л.Д.

професор Юзько О.М.

професор Годованець О.І.

ISBN 978-966-697-843-4

© Буковинський державний медичний
університет, 2020



Kushniryk O.V.

IMPACT OF SEASONS ON CIRCADIAN RHYTHM

*Department of Medical Biology and Genetics
Higher State Educational Establishment of Ukraine
«Bukovinian State Medical University»*

According to the recent researches, light is the most potent time cue for phase-shifting circadian rhythms, but the period and amount of solar irradiation vary dynamically with season, especially in regions far from the equator. There is evidence that chronotype is modified by seasonal change, most likely due to the changes in the light environment, but interindividual differences in photoperiod responsiveness mean that some people are more affected than others. A study of circadian rhythm influence on the human heart rate, depending on a season changes, was the aim of our research.

The study was conducted on 20 students during summer-winter seasons to observe impact of season changes on biological clock mechanism by recording the waking, sleeping time and heartbeat rate. The most obvious and reliable feature of seasons is the change in daylength or photoperiod with shorter photoperiods during winter months and longer photoperiods during summer (Shawa N., Rae D.E., Roden L.C., 2018). It was found that sleep duration was longer in winter than in summer photoperiods and that the longer sleep was associated with longer duration of melatonin secretion (Wehr T.A., 1991). Secretion of melatonin reaches its peak at the middle of the night and decreases throughout the day, its presence provides information about night-length. HRV increased during the night in particular and a nighttime peak during the second half of the night was identified (Sammito S., Sammito W., Böckelmann I., 2016). During autumn the time of waking was almost the same. Here waking means that it can be a remainder that the person woke the same time on the previous day. Heart beating when persons woke was comparatively higher than when they slept: it is around 106-116 times before sleep and 126-135 times during waking up. The duration of sleep was in the range of 6-8 hours.

The results of conducted experiments are different in winter as well as in a dark room indicating the dependence of biological clock activity in response to external stimuli, namely solar light at different seasons. Persons during winter take a little more time to wake up (10 hrs). In addition, heart works harder to keep body warm due to a cold weather. Thus, it is clear that biological clock depends on the season changes and plays a major role in the regulation of human heart health.

Lomakina Yu.V.

CHARACTERISTIC OF PRO-INFLAMMATORY AND ANTI-INFLAMMATORY CYTOKINES IN KIDNEY FAILURE

*Department of medical biology and genetics
Higher State Educational Establishment of Ukraine
«Bukovinian State Medical University»*

It is known that immune system is activated by a diversity of factors, including pathogens, damaged cells and toxic compounds. These factors may induce acute and/or chronic inflammatory responses in the kidney, liver, heart, pancreas, lung, brain, intestinal tract and reproductive system, altogether causing injure of tissue or disease. The etiologies of inflammation can be infectious or non-infectious. As a result of tissue damage, the living organism conceives a chemical signaling cascade that stimulates responses aimed at repairing involved tissues. These signals activate leukocyte chemotaxis from the general circulation to sites of lesion. These activated leukocytes produce cytokines that induce inflammatory responses.

Cytokines are predominantly released from immune cells, including monocytes, macrophages, and lymphocytes. Pro- and anti-inflammatory cytokines facilitate and inhibit inflammation, respectively. Inflammatory cytokines are classified as ILs, colony stimulating factors (CSF), IFNs, TNFs, TGFs, and chemokines, and are produced by cells primarily to recruit leukocytes to the site of infection or injury. Cytokines modulate the immune response to infection