

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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more, modern trend to 24/7 activities contributed to modification of work schedule and leisure events of the population in highly and moderately developed countries.

The aim of the study. To investigate the impact of the modified lighting regimen and the related lifestyle of the population in modern conditions on the state of morbidity.

Material and methods. A large amount of scientific data in monographic, scientific databases, other printed and electronic publications.

Results. The negative effects of the loss of natural resource of rhythmicity might seem invisible. But a growing body of evidence links the brightening night sky and overnight activities directly to measurable negative impacts including circadian desynchrony. Light is the primary environmental signal that entrains the main circadian clock in the SCN, discriminating day from night and synchronizing the transcription-translation feedback loop of genes involved in the internal clock functioning. Subsequently, their products are included in the metabolism at all levels regulating almost all biochemical and molecular reactions and adjusting them to environment.

Great attention has been given by western researchers to this problem for last 2 decades. In 2007, "shift work that involves circadian disruption" was listed as a probable carcinogen by the World Health Organization's International Agency for Research on Cancer, later multiple studies have documented a correlation between night shift work and the increased incidence of breast and prostate cancer. Disruptions of daily rhythms are already associated to type 2 diabetes mellitus (T2DM), obesity, cardiometabolic diseases (CMD), depression and anxiety, all of which impose major public health and economic burden on societies. The new term - Circadian Syndrome – was introduced in 2019 by Zimmet et al., that is the comorbid relationship between circadian rhythms disruption and the major components constituting the Metabolic. The concept of the Circadian Syndrome is built on the fact that a number of chronic disorders including obesity, hypertension, CMD, dyslipidemia, T2DM, depression, sleep disorders, nonalcoholic fatty liver disease have a strong link with circadian rhythms.

Conclusions. Despite a great number of investigations and publications in abroad press, less attention is given to the problem by Ukrainian researchers. The information about potential harmful effects of prolonged illumination period and light pollution in open sources are limited to statement about possible hormonal disruption and the consequences – fatigue and poor sleep. Definitely, the problem of health impact under changing modern environment needs to be not ignored and studied extensively.

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ANALYSIS OF RISK FACTORS FOR THE OCCURRENCE OF DISORDERS OF THE FUNCTIONAL STATUS OF CARDIOVASCULAR PATHOLOGY OF NEWBORNS

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Introduction. According to the literature, the frequency of cases of hypoxic myocardial damage in newborns ranges from 29 to 78%.

Objectives. In order to determine the risk factors for the development of disorders of the functional state of the cardiovascular system (CVS) during the early neonatal period, an analysis of somatic pathology and the course of pregnancy and childbirth in mothers who gave birth to children with disorders of the functional state of the cardiovascular system was conducted.

Material and methods. Group I included 65 newborns who had clinical manifestations of perinatal pathology, including changes in the functional state of the cardiovascular system; Group II - 57 children who were noted to have more significant cardiovascular disorders. Control group III consisted of 60 newborns with a satisfactory general condition.

Results. An analysis of the somatic anamnesis of the mothers of the children of the observation groups was carried out. It showed that in the cases of the birth of children who had clinical signs of disorders of the functional state of the CVS during perinatal pathology, a significant percentage of cardiac diseases was noted, probably higher in women of group II (47,37%), compared to group I (26,15%) and group III (21,67%). The pathology was presented:

vegetative-vascular dystonia (26,32% in the second group, 16,92% in the first group and 18,33% in the third group, $p>0,05$), mitral valve prolapse (respectively 7, 02, 1.54 and 3,33% in groups II, I and III), $p<0,05$ and arterial hypertension (3,51%) in mothers of group II. Endocrine pathology was also observed (26,32% in group II, 10,77% in group I, 3,33% in group III), $p<0,05$; iron deficiency anemia (respectively 47,37, 41,54 and 40,0% in II, I and III groups), $p>0,05$; diseases of the urinary system (in 21,05, 12,31 and 8,33% of cases, respectively, in groups II, I and III), $p<0,05$.

Attention was also drawn to the significantly higher specific weight of chronic gynecological pathology in women who gave birth to children with severe forms of maladjustment (24.56%). At the same time, chronic colpitis and vaginitis prevailed among the diagnoses – 12,28%. According to the birth histories, a significantly higher frequency of carriers of conditionally pathogenic microflora (38,60%) was found in mothers of group II, which was probably higher compared to women of group I (10,77%) and women of group III (8,33%), $p<0,05$. The highest percentage of complications during pregnancy and childbirth in mothers was associated with the presence of preeclampsia in the first and second half of the gestational period – 10,53% in the second group and 3,08% in the first group ($p<0,05$) and the presence placental dysfunction (14,04 and 12,31%, respectively, $p<0,05$). The threat of abortion was detected in all experimental groups, but its frequency did not differ significantly (47,37, 46,15 and 45,0%).

The analysis of the course of childbirth in women of the observation groups showed a significant percentage of pathology in the mothers of children of group II: the duration of the waterless interval > 6 hours – 21,05%, premature rupture of the membranes – 10,53%, episiotomy and perineotomy – 8,77%, entanglement of the umbilical cord around the neck of the fetus – 14,04%, amniotomy – 8,77%; in 5,26% of cases, obstetrical forceps were applied; in 7,02% of cases vacuum extraction of the fetus was carried out. It should be noted that in group II, compared to group I, there were more cases of fetal distress – 12,28 and 7,69%, respectively, due to which the delivery was performed by cesarean section according to emergency indications (36,84% in group II and 23,08% - in group I). Also, during childbirth, meconium and green amniotic fluid was noted in 43,86% of cases in mothers of the second observation group, and in 7,69% of women of the first group, $p<0,05$.

Conclusions. The obtained data indicated that the intrauterine development of the fetus had taken place under the conditions of the implementation of unfavorable ante-/perinatal risk factors, i.e., the nature of cardiovascular disorders in newborns is multifactorial, which requires a separate in-depth analysis of risk factors in each specific case.

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THE BODY MASS INDEX AND METABOLIC PARAMETERS ASSOCIATION DEPENDING ON THE ANGIOTENSINOGENE (AGT, RS699) GENE POLYMORPHISM IN PATIENTS WITH ESSENTIAL HYPERTENSION

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Introduction. Essential hypertension (EH) is the leading cause of cardiovascular disease and premature death worldwide. The prevalence of EH has increased, especially in low and middle-income countries. Variations in the levels of risk factors for it, such as high sodium intake, low potassium intake, obesity, alcohol consumption, physical inactivity and unhealthy diet, may explain some of the regional heterogeneity in EH prevalence. Therefore, it is important to study risk factors in order to improve secondary prevention of EH.

The aim of the study was to analyze the correlations between body mass index (BMI) and clinical and laboratory parameters in patients with EH depending on the angiotensinogen (AGT, rs699) gene polymorphism.

Material and methods. 72 subjects with EH and target-organ damaging (2nd stage), moderate, high or very high cardiovascular risk were involved in the case-control study. Among them, 70.84% (51) females and 29.16% (21) males, mean age 59.87 ± 7.98 yo. Control group consisted of 48 practically healthy individuals with relevant age and sex distribution.