**Conclusions**. Many schoolchildren used multiple forms of technology late into the night without prudence or restrictions. Subsequently, their ability to stay alert and fully functional throughout the day was impaired.
Both parents and schoolchildren should be informed about the influence of technologies on sleep, effects of blue light exposure, sleep hygiene and early adoption of healthy sleep habits and prevent sleep problems.
**Key words:** light, gadgets, circadian rhythm, children

## 271. BLUE LIGHT EFFECT AND ETHNICITY - IN SHADOW OF SKIN PIGMENTATION AND EYE COLOUR

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**Introduction.** Blue light [wavelength between 400-495nm], from digital sources and artificial lighting in the evening, hence inhibit normal secretion patterns of melatonin causing circadian rhythm and sleep disturbances. There is an inversely proportional relationship between blue light exposure and melatonin secretion. In the same time, blue light can be absorbed by the pigmental layer of the retina that contains melanin. Thereby, the quantity of blue light that will rich the retina can be influenced by the amount of melanin from the eyes.
**Aim of the study.** The purpose is to appreciate the circadian rhythm and sleep disturbances and depth of blue light effect on melatonin secretion on different ethnical groups, integrating skin and eye pigmentation effects on the same matter;
**Materials and methods.** An analysis of the latest scientific sources has been carried out using the PubMed search engines, 'HINARI' and Google Academic with the help of keywords: blue light, ethnicity, skin pigmentation and eye colour, sleep quality, sleep consistency, sleep duration.
**Results.** The role of ethnicity in most aspects of human health is well documented. An example is the inefficiency of certain drugs used in asthma treatment in certain racial groups. Other studies determined a decrease in prevalence and incidence of Parkinson Disease in Americans of African descent compared to Caucasians. Also, shorter sleep was reported in black than in Asian, in Asian than in Hispanic/Latin and in Hispanic/Latin than in White. More sleep quality disturbance was reported in Black than in Asian and in Asian than in Latin. One of the explanations of the influence of ethnicity on sleep is the amount of melanin in the eyes. Some studies have shown that physiological responses to light depend on eye colour and that intraocular light scattering is higher in blue-eyed Caucasians. The percentage of suppression of melatonin secretion two hours after the start of light exposure was significantly more abundant in light-eyed Caucasians than in dark-eyed Asians. In the same time, in a comparative study which analysed the influence of light treatment in Seasonal Affective Disorder (SAD), was found that following six weeks of light therapy, African-American participants with SAD had a lower remission rate than Caucasian participants. Researchers suggested that higher melanin content of the pupil and retinal pigment epithelium in African-Americans may reduce the retinal illuminance in African-American SAD patients during light treatment hence reducing the effect of light therapy. These results suggest that the sensitivity of melatonin to light suppression is influenced by eye pigmentation and can be related to ethnicity, respectively.
**Conclusions.** In the light of the study, it is evident that eye and skin pigmentation are indeed concerned with melatonin activity and blue light effect varies as many parameters of melatonin

secretion and sleep are subject to variations in different racial /ethnic groups. In times where individualised medicine should be pampered more, taking into account the influence of light on the human body concerning the eye and skin pigmentation can lead to a better understanding of the circadian and sleep processes.

**Key words:** blue light, ethnicity, skin pigmentation and eye colour, sleep quality, sleep consistency, sleep duration.

## 272. THE ROLE OF PERSONALITY TRAITS IN SLEEP QUALITY

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**Introduction.** It is well accepted that disturbed sleep is influenced by a number of predisposing, precipitating, and perpetuating factors, and these may be biological, environmental, behavioural or psychological in nature. Personality may act as a predisposing, and potentially perpetuating factor, and literature concurs with the fact that disturbed sleep is related to increased neuroticism, internalization, anxious concerns and perfectionism.

**Aim of the study.** To determine what maladaptive personality traits are the most frequently present among patients with disturbed sleep.

**Materials and methods.** In this study participated 56 patients (age range 25-71 years) that have addressed themselves to the Department of Somnology from the Institute of Neurology and Neurosurgery „Diomid Gherman". They completed the Pittsburgh Sleep Quality Index (PSQI). This self-reported instrument evaluates sleep quality for the last month and the Personality Inventory for DSM-5 (PID-5), a 220-item self-rated personality trait assessment scale for adults, that measures maladaptive personality traits.

**Results.** From 56 patients, 35 of them (63% ) showed poor sleep quality and 21 (37%) good sleep quality. From 25 personality trait facets assessed of PID-5, higher average scores were observed in the following facets: Anxiousness (in 7% of cases), Attention Seeking (7%), Emotional Lability (7%), Hostility (7%), Intimacy Avoidance (9%), Separation insecurity (9%), Suspiciousness (9%) and Rigid Perfectionism (11%). The only trait domain detected was Negative Affect.

**Conclusions.** The most prominent personality characteristic observed in our study is Rigid perfectionism. This may be because the maladaptive form of perfectionism includes concern over mistakes and excessively high personal standards and is associated with worry and rumination. Worry and rumination at bedtime are, in turn, assumed to lead to sleep onset and sleep maintenance difficulties. The predominant domain of Negative Affect detected in our study shows that people with sleep complain have frequent and intense experiences of a wide range of negative emotions: instability of emotional experiences and mood, feelings of nervousness, tenseness, fears of being alone due to rejection, frequent angry feelings, feelings of being mistreated, avoidance of interpersonal attachments. These outcomes provide objective support for further analytical studies in order to find out if there is a significant difference between good sleepers and bad sleepers in correlation with these personality traits.

**Key words:** sleep quality, personality traits, PSQI, PID-5