Introduction Electric indoor lighting can disturb sleep and increase depressive symptoms; both common complaints in psychiatric inpatients.
Aims To improve quality of sleep in patients using an indoor hospital lighting environment simulating nature in intensity, color, and circadian timing.
Methods Investigator-blinded parallel group randomized controlled effectiveness trial supplied with qualitative interviews in an inpatient psychiatric ward with fully automatic and adjustable lighting. Admitted patients received a room with a naturalistic lighting environment (intervention group) or lighting as usual (control group). The primary outcome was the Pittsburg Sleep Quality Index and secondary outcomes included the Major Depression Inventory and WHO-five Well- Being Index.
Results In this ongoing trial, we included 28 patients (16 treated and 12 controls). Patients in the intervention group reported higher subjective sleep quality and sleep efficiency, lower use of sleep medication (mean difference, 4.68 mg; 95% CI, 0.54; 53.5), fewer depressive symptoms (mean difference, 5; 95% CI,–2; 13), but lower well-being (difference,–4 percentage points; 95% CI,–20; 16), compared with the control group. At discharge, fewer patients in the intervention group had experienced use of involuntary treatment. Qualitative data indicated no side effects apart from issues in performing indoor leisure activities in dim light.
Conclusions A naturalistic lighting environment was safe and improved sleep and mood in our small patient sample. The trial integrated well with routine clinical care and our sample reflected the heterogeneity of the target population (Funded by Region Midtjylland and others; Clinicaltrials.gov number, NCT02653040)
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EW0535

Psychological and psychophysiological mechanisms of mental stress reaction in patients with 'hypertension at work', as compared with 'classical' version of essential hypertension

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Introduction 'Hypertension at work' today is found one of the most frequent forms of stress-induced hypertension.
Objectives To inquire into the specifics of psychological and psychophysiological mechanisms of stress reaction in patients with 'hypertension at work', as compared with 'classical' essential hypertension (EH).
Materials and methods The study developed simulation of emotional stress with the aspiration level (AL) modeling. The level of state anxiety (SA), BP values, urine catecholamine levels and levels of renin and angiotonin I in blood plasma were taken before and after the experiment. Eighty-five patients with 'hypertension at work' (mean age was 45.9 ± 2.8) and 85 patients with 'classical' EH (mean age was 47.4 ± 4.5 years) took part in the study.
Results Rates of 'hypertension at work' patients, when compared with second group patients, revealed a significant increase ($P < 0.001$) of systolic BP in response to stress loads (on average, for 16.1 ± 1.9 mmHg and 4.1 ± 0.7 mmHg, respectively). Initially 'hypertension at work' patients had significantly lower levels of catecholamines, than the second group, while the levels of renin and angiotensin I were comparable. During the experiment, the patients in the first group showed a significant decrease in all parameters. After the experiment, the patients with 'HTN at work' did not show increase of SA, but revealed more frequent inadequacy (69.4%) and instability (56.5%) on the AL. Patients with 'classical' EH more often demonstrate adequate AL and lower growth of BP after the experiment.
Conclusions Patients with 'hypertension at work' are more prone to repress their emotions. They reveal physiological features of chronic stress and psychophysiological exhaustion, if compared with second group patients.
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Longitudinal changes in sleep disturbances, mental toughness, and physical activity in patients with multiple sclerosis

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Background Multiple sclerosis (MS) is a chronic progressive autoimmune disease. Fatigue, depression and cognitive impairments are the most common symptoms of patients with MS. Whereas there is extant research on fatigue, depression, and cognitive impairment of patients with MS during the clinical course, no research focused on the long term changes of psychological functioning, sleep problems, and physical activity on these patients. The aims of the present study were therefore to examine changes in physical activity, sleep disturbances, and mental toughness over a 1.5-year period of time in people with multiple sclerosis after the onset their MS.
Methods A total of 18 patients with diagnosed MS (mean age: $M = 33.61$ years) took part in this study. They completed a booklet of questionnaires covering socio-demographic data, mental toughness, sleep disturbances, and physical activity, at the onset of disease and 1.5 years later.
Results In total, 1.5 years after the onset of MS, patients had lower levels of vigorous physical activity, but not statistically significant change in moderate physical activity. Patients with sleep disturbances at the onset of disease had statistically significant sleep disturbances also 1.5 years later.
Conclusions Compared to the onset of disease, 1.5 years later, patients with MS reported similar mental toughness traits, sleep disturbances and levels of moderate physical activity. The pattern of results of the present pilot study suggests that the onset of MS is not an obstacle for doing moderate physical activity. Based on the result of this study, sleep disturbances remains stable by time.
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