

Introduction: Alzheimer's disease (AD) is a neurodegenerative pathology that develops mainly in elderly and senile people.

Objectives: The aim of the study was a comparative analysis of the results of neuropsychological tests with the indicators of the study of oral fluid and buccal epithelium cytograms in patients with Alzheimer's disease.

Methods: In the main group of 12 patients with Alzheimer's disease, $m=76.25\pm 4.89$. There were 12 cognitively healthy people in the control group. The average MMSE score among the observations of the main group was 13.42 ± 3.63 . The ADAS-COG scale was used to detail the impaired cognitive functions. The concomitant pathology is compensated. The content of BDNF, TNF- α , IL1RA, IL-6, and IL-8 was determined in the oral fluid and in the blood serum. The concentration of salivary and serum biomarkers was determined by multiparametric fluorescence analysis with magnetic microspheres. Micronuclei, karyopycnosis, karyorexis, and karyolysis were determined in the cellular structures of the buccal epithelium. The material for cytological examination was collected from the inner surface of the cheek.

Results: When analyzing buccal cytograms, attention was drawn to a pronounced increase in the number of cells with micronuclei in patients with AD to 1.8%; in the control group, the median was 0.1% ($p<0.05$). A direct correlation was established between the number of binuclear cells and the level of BDNF in the blood serum ($r=0.646$; $p=0.03$) in patients with AD. It is also important to note that the level of serum BDNF had a significant direct correlation with immediate memory, and the concentration of salivary BDNF correlates with the parameter of naming objects.

Conclusions: Correlations between amnesia, speech disorders, praxis, gnosis and pathology of the oral fluid and buccal epithelium, especially with the severity of karyopycnosis and karyorexis, have been established, indicating a direct correlation between the neurodegenerative process pathogenetically associated with Alzheimer's disease and the processes of systemic inflammation and degeneration of the buccal epithelium.

Disclosure of Interest: None Declared

EPP0748

Efficacy, safety and methodological quality of light therapy and sleep improvement interventions for people with attention deficit hyperactivity disorder (ADHD)

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Introduction: Large proportion of patients with ADHD experience sleep problems. Well conducted, good quality clinical research could identify non-pharmacological sleep improvement interventions that would benefit patients with ADHD and would inform evidence based guidelines for sleep management in ADHD.

Objectives: To conduct a novel meta-research assessment of available clinical trials in the field of light therapy and non-pharmacological sleep improvement interventions for people with ADHD.

Methods: Peer-reviewed publications of clinical trials were analysed. An advanced literature search strategy was performed in major medical databases, including EMBASE, MEDLINE, the Cochrane Central Register of Controlled Trials and PsycINFO. Available data at WHO-approved clinical trial registries were searched and linked to the published literature. Detailed methodological assessment of results was conducted using the Cochrane Risk of Bias Tool version 2.0 (ROB2), conflict of interest, spin and favourability of findings. Reduction in ADHD symptom severity and improvement of sleep quality served as primary outcomes for the efficacy analysis. Any adverse events were recorded. Statistical analysis of the primary outcomes was conducted by calculating standardised mean difference and transformed as necessary. Publication bias was evaluated with contour enhanced funnel plots and the trim-and-fill procedure, and by summarising unpublished trials.

Results: Analysed clinical trials often had a high risk of bias (evaluated by the ROB2). The primary outcome interpretation and overall trial conclusions frequently favoured the trial intervention. Clinical trials showed an association between primary outcome effect size and interpretation, and risk of bias. Clinical research in this field faces many of the same challenges identified for complex interventions in mental health, such as small sample size, lack of funding and difficulties with blinding.

Conclusions: Clinical research regarding light therapy and non-pharmacological sleep improvement interventions for ADHD patients indicates safety and effectiveness but studies often lack methodological rigour.

Disclosure of Interest: None Declared

EPP0749

The sunshine induced placebo effect in Major Depressive Disorder patients exhibits gender differences

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Introduction: Sunshine increases placebo effect in major depressive disorder (MDD) patients (Gailledreau et al., 2015). Kokras et al. (2014) showed that sunshine induces different responses in female than male mice in preclinical models of depression.

Objectives: To determine if the sunshine induced placebo effect exhibits gender differences in human

Methods: Data from 9 double-blind, randomized, placebo-controlled studies of antidepressants conducted by the French GICIPI network were reviewed. MADRS (5) or HAM-D 17 (4) were used as the main efficacy tool. For each patient, variation of scores (Delta MADRS/Delta HAM-D) between two consecutive visits were correlated with the average sunshine index observed at noon between these visits. Sunshine indexes were provided by Météo-France. Correlations were computed with Microsoft Excel.

Results: Sunshine increases placebo effect: however analysis of both genders ($n=52$) demonstrates no statistically significant (NS) correlation ($r^2=0.0064$). Analysis of the males ($n=8$) demonstrates NS correlation in cloudy (< 1000 Joules/cm²), variable (1000-2000 Joules/cm²) or sunny (> 2000 Joules/cm²) weather. Although analysis of the females ($n=44$) demonstrates NS