

Introduction: Autism spectrum disorder (ASD) is a childhood onset neurodevelopmental condition, that leads to permanent disability in a high proportion of cases. ASD is associated with a heterogeneous symptom presentation, which - besides social interaction and communication difficulties - encompasses altered sensory reactivity, including excessive hyper-sensitivity to stimuli, especially in the visual domain. Meta-analyses of fMRI studies revealed increased reactivity in visual task conditions in the temporal and occipital brain regions. Neural oscillations in the EEG gamma band are viewed as a candidate neurobiological marker for higher order sensory and perceptual processes, and social interactions.

Objectives: We investigated changes in gamma activity in the EEG in the eyes open (EO) vs. eyes closed (EC) condition in order to identify the neurobiological underpinning of the enhanced sensitivity to visual input in ASD as compared to typically developing (TD) subjects.

Methods: EEGs were obtained in EC and EO condition in ASD (N=23) and TD subjects (N=24) in an ongoing study. For EEG recording we used a high-density 128-channel BioSemi system, with 0.5 Hz frequency resolution. The spectral power in the gamma band (30-100Hz) was quantified by the power spectral density. To investigate whether changes in the gamma band were linked to changes in arousal instead of enhanced visual processing, we also examined alterations in the alpha band (8-13Hz) in the EO condition. Spectral power changes were determined for each EEG channel by computing the difference between the EC and EO conditions (EO-EC).

Results: Spectral power in the gamma band showed changes in the opposite direction in the two study groups: ASD subjects manifested significant ($p < 0.05$) increase, while TD subjects had a decrease in the EO vs. EC condition in the temporal and occipital brain regions. By contrast, the changes in the alpha band were similar, with both groups exhibiting a spectral power decrease in the EO compared to the EC condition.

Conclusions: In ASD, an enhancement of gamma activity is present in the EO as compared to the EC condition in the posterior brain areas. These brain areas are involved in the processing of visual information, and gamma activity is considered as a measure of perceptual processes. Thus, the gamma alterations in the EO vs. EC condition may underlie the hyper-sensitivity symptoms to visual stimuli in ASD, and EEG can offer a simple to use tool to delineate the neurobiological foundation of the symptom presentation.

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Old Age Psychiatry

EPP0531

Enhancing Quality of Life in the Elderly: The Impact of Psychosomatic Exercises on Healthy Aging

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Introduction: Older individuals constitute a significant portion of the population, and concerted efforts are underway to enhance the quality of this life stage by minimizing health issues and maximizing opportunities.

Objectives: This study aims to investigate the impact of psychosomatic exercises, including practices like yoga, meditation, and tai chi, as an alternative approach to promoting healthy aging and ultimately enhancing the quality of life among elderly individuals.

Methods: The study comprised 84 participants, with 51 individuals engaging in various forms of psychosomatic exercises and 33 serving as the control group, having no prior exposure to such practices. Data collection was carried out electronically, with the initial section gathering socio-demographic information and health-related details about the participants. The second part consisted of the WHOQOL-BREF quality of life scale, consisting of 26 questions, which assessed six domains: Overall Quality of Life and General Health, Physical Health, Psychological Health, Social Relationships, and Environment. Statistical analysis was performed with SPSS 26.

Results: The average age of the participants was 66.7 years. A statistically significant positive correlation was identified within the first subscale of the tool, "Overall Quality of Life and General Health," with scores of 74.3/100 for those engaging in psychosomatic exercises and 66.7/100 for those who did not ($t(82) = -2.513$, $p = 0.014$). However, no statistically significant differences were observed in the remaining subscales.

Conclusions: Psychosomatic exercises, including yoga, meditation, and tai chi, hold promise as a means to improve the overall quality of life and general health of elderly individuals. These practices could serve as valuable components of strategies aimed at promoting healthy aging. Further research is needed to explore their effects in greater detail and across various dimensions of well-being.

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Neuroscience in Psychiatry

EPP0532

Pursuing Sleep Architecture Remodeling: Effects of Psychopharmaceuticals on Sleep Structure

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Introduction: Sleep plays a pivotal role in overall physical and mental health, exerting a profound influence on general well-being and quality of life. The influence of psychopharmaceuticals on sleep structure is a critical research area, given their widespread use in the treatment of psychiatric disorders, yet their precise effects on sleep remain inadequately understood.

Objectives: This study aims to investigate how psychopharmaceuticals affect sleep architecture by identifying commonalities and disparities among different classes of psychotropic medications.

Methods: Systematic review of the literature encompassing studies assessing the effects of psychopharmaceuticals on sleep structure. Electronic databases such as PubMed were employed to identify pertinent studies published within the last decade.

Results: Diverse classes of psychopharmaceuticals have varying effects on sleep architecture. Additionally, prolonged use of specific psychopharmaceuticals was correlated with sleep disturbances,