

**Objectives:** Intravenous ketamine (IVK) and intranasal esketamine (ESK) are increasingly used in treatment-resistant depression (TRD). There is limited data on head-to-head comparison as well as few reports on effects across age groups.

**Methods:** A retrospective chart review was conducted with patients from a specialized TRD program who received acute courses of IVK (6 infusions) ( $n = 113$ ) or ESK (8 intranasal insufflations) ( $n = 35$ ) between February 2017 and May 2023. Clinical response (defined as 50% decrease in mood scores) and symptomatic improvement were assessed using Beck Depression Inventory (BDI). An analysis was conducted between patients younger or older than 60 years.

**Results:** In IVK, patients under 60 ( $n = 57$ ; 58.1% female; mean age  $44.4 (\pm 9.8)$ ) had 22.8% response (BDI at infusion 1:  $30.4 (\pm 9.70)$ ; infusion 6:  $21.2 (\pm 10.9)$ ). Patients over 60 ( $n = 56$ ; 49.6% female; mean age  $73.2 (\pm 7.6)$ ) response rate was 26.8% (BDI infusion 1:  $24.9 (\pm 11.0)$ ; infusion 6:  $19.0 (\pm 11.6)$ ). There was a statistically significant reduction in BDI scores between baseline and the end of the acute course ( $p < 0.0001$ ). No difference between the two age groups was observed ( $p = 0.1165$ ). For ESK patients under 60 ( $n = 22$ ; 68.1% female; mean age  $44.0 (\pm 8.3)$ ), response rate was 22.78% (BDI at infusion 1:  $M = 30.4$ ,  $SD = 9.70$ ; and at infusion 6:  $M = 21.2$ ,  $SD = 10.9$ ). In older patients ( $n = 13$ ; 69.2% female; mean age  $72.6 \pm 7.4$  years) response rate was 30.8% (BDI at infusion 1:  $M = 24.9$ ,  $SD = 11.0$ ; at infusion 6:  $M = 19.0$ ,  $SD = 11.6$ ). BDI score decline between baseline and end of the acute course was statistically significant ( $p < 0.0001$ ). No difference between the two age groups was observed ( $p = 0.5420$ ). No statistical difference was found in patients  $> 60$  between IVK and ESK ( $p = 0.31$ ) as well as in patients  $< 60$  between IVK and ESK ( $p = 0.4632$ ).

**Conclusions:** Antidepressant response and reduction of depressive symptoms was similar between IVK and ESK, with no difference between young and old populations.

## P23: Association of exercise with melatonin level in community-dwelling older adults

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**Summary:** Melatonin serves as an endogenous synchronizer of biological rhythms. Age-related changes are evident with a significant reduction in melatonin observed in 24-hour secretion. Melatonin exerts a significant cytoprotective action by buffering free radicals and reversing inflammation. However, few studies have explored the association between physical activity and melatonin level. In this study, we compared melatonin level and actigraphy-derived sleep and activity indicators in older adults across two levels of exercise habit (sedentary-to-light exercise and moderate-to-vigorous exercise), as well as the association of these indicators with melatonin levels. We recruited 104 participants (aged 57–84 years) who wore a wristwatch device to monitor their activity (MotionWatch 8; CamNtech, Cambridge, UK) for 14 days. Circadian rhythms were estimated using cosinor analysis, lag 1440 mins correlation coefficient, interdaily stability, and non-parametric analysis. Saliva samples were collected every 30 mins from 18:00 pm till one hour before usual bedtime, and maximum melatonin level during this period. A 5-minute Psychomotor Vigilance Task (PVT) was used to evaluate attention. Habits of physical activities were self-reported. Melatonin level was not significantly different between participants with sedentary-to-light and moderate-to-vigorous exercise habits. Analysis showed that participants who had moderate-vigorous exercise habit were older ( $p = 0.04$ ), having longer sports time ( $p < 0.001$ ) and WASO ( $p = 0.02$ ), more occurrence of daytime naps (intradaily variability) ( $p = 0.05$ ), more fragmented 24-h sleep-wake cycle (interdaily stability,  $p = 0.01$ ), and less regular 24h rhythm (lag 1140 mins correlation,  $p = 0.04$ ). They also showed shorter response time ( $p = 0.05$ ), and a smaller number of lapses ( $p = 0.04$ ) in PVT. Regression analysis results showed that weekly

exercise time is positively associated with melatonin level. Additionally, a later start hour of M10 is associated with 5.95 pg/ml increase in melatonin level. In consistent, exercise in older adults did not promote a robust sleep-wake cycle but is related to better cognitive function and higher melatonin levels.

#### **P24: Perceived sleep quality, the use of sleep medications and their association with cognitive performance in Brazilian older adults**

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**Objectives:** The aim of this study was to evaluate the association between self-reported sleep quality, use of sleep medications and cognitive impairment among a representative sample of the Brazilian elderly population.

**Methods:** We conducted a secondary analysis using the baseline data of the Brazilian Longitudinal Study of Aging (ELSI-Brazil), a representative sample of non-institutionalized older adults, aged 50 years or over, living across the five Brazilian regions. We divided our sample into groups according to self-rated sleep quality and the use of sleep medication, and descriptively reported sociodemographic and general health characteristics with their respective associations to each group. Subsequently, we analyzed the associations between these sleep measures and cognitive performance using linear regression.

**Results:** Data from 8,592 respondents were included, of which poor sleep perception was reported by 17.8% of participants, 16.2% were users of sleeping pills and 12.9% met criteria for cognitive impairment. Female sex, not having a partner, current smoking, having less education and more comorbidities were associated with poor sleep perception prevalence. Regarding the use of sleep aid, female sex, older age, not having a partner, having less education, more comorbidities and a problematic drinking behavior were associated to a current use. Any use of sleep medication ( $-0.06$  (95% CI;  $-0.10$  to  $-0.02$ )) and poor sleep perception ( $-0.06$  (95% CI,  $-0.09$  to  $-0.02$ )) were both associated with worse cognitive performance after adjustments in the multivariate analysis. Sensitivity analysis revealed that, when compared to individuals who reported “very good” sleep quality, the group who reported “poor” sleep quality was associated with worse cognitive scores ( $p = 0.015$ ) When compared to not using sleeping medication, the group that used medication 3 or more times a week was associated with worse cognitive measures ( $p < 0.001$ ).

**Conclusions:** We describe an association of sleep aid use and poor sleep perception with worse cognitive performance. We also report different frequencies of sleep quality perception and sleep aid use in accordance with a set of characteristics of this sample that can be considered potential risk factors for the development of sleep disorders and that can impact older adults’ quality of life.

**Key words:** Cognition, older adults, sleep quality, sleeping pills.

#### **P25: Effects of cannabidiol on behavioral and psychological symptoms of vascular dementia: a randomized, double-blind, placebo-controlled trial**

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**Objectives:** To evaluate the effect and safety of Cannabidiol (CBD) on behavioral and psychological symptoms in elderly with Vascular dementia (VD).