

investigating the feasibility and efficacy of an innovative, self-applied treatment approach for patients diagnosed with major depressive disorder. The trial is conducted at three clinical trial sites (Hadassah, Israel; Riga Stradiņš University, Latvia; Ludwig-Maximilian-University, Germany). The treatment approach combines prefrontal transcranial direct current stimulation with a videogame designed to enhance cognitive and emotional control. This treatment is self-applied at home and remotely monitored. At the beginning of the intervention the patients are randomized in an active group receiving both active stimulation and videogame and the other group receiving sham stimulation and visually similar but not active videogame.

**Objectives:** The present interim analysis after half of the patients included examines patients' intrinsic motivation after completing the first five sessions (of 30) of the treatment. We also examine patients' interest/enjoyment, perceived competence, effort, felt pressure/tension, and perceived choice following the first week of treatment. Intrinsic motivation has been associated with enhanced learning and performance, so it can be used as one of the predictors for patient compliance.

**Methods:** At the end of the 5<sup>th</sup> session, the patients filled in the Intrinsic Motivation Inventory (IMI) including the following subscales: interest/enjoyment, perceived choice, perceived competence, effort/importance and felt pressure/tension (scored on a 7-point Likert scale, ranging from 1 "not at all true" to 7 "very true").

**Results:** This report includes the first 55 patients randomized (27 patients in the active group and 28 patients in placebo group) for the DiSCoVeR trial. Patients rated their overall interest/enjoyment at 4.50 out of 7 (SD±0.17 95% CI 4.16 to 4.84), their perceived choice at 5.55 (SD±0.16; 95% CI 5.23 to 5.87), their perceived competence at 4.52 (SD±0.15; 95%CI 4.22 to 4.82), their effort/importance at 5.07 (SD±0.16; 95%CI 4.74 to 5.40) and their pressure/tension at 3.00 (SD±0.13; 95% CI 2.73 to 3.26).

**Conclusions:** We conclude that overall patients were quite interested in the treatment and had inherent pleasure while doing the sessions, felt that it was their choice to do them, felt that they performed the task quite effectively, were invested in doing the sessions and the experienced pressure and tension were low. The perceived choice and competence are positive predictors of intrinsic motivation. This aligns with the previous published data of a smaller patient subset (L. Konosonoka et al *Medicina* (Kaunas) 2022;58(Supplement 1):72) with the standard deviations being smaller in our larger patient sample.

**Disclosure of Interest:** None Declared

## COVID-19 and related topics

### EPP0016

#### Clinical suitability of intranasal delivery of M2 macrophage soluble factors in patients with post-COVID olfactory disorders

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**Introduction:** SARS-CoV virus showed transneuronal penetration through the olfactory bulb resulting in the rapid intracranial spread. So, olfactory dysfunction is an early marker of COVID-19 infection. However, individuals may develop chronic olfactory impairment for more than six months in 1–10% of cases.

**Objectives:** The study's objective was to evaluate the efficacy and safety of intranasal immunotherapy using bioactive substances produced by M2 macrophages for the treatment of people with long-term post-COVID-19 hyposmia.

**Methods:** Seven individuals with long-term persistent hyposmia (7 to 24 months), associated with PCR-confirmed coronavirus infection were evaluated for olfactory function at baseline, one, and six to twelve months after therapy.

**Results:** The intranasal inhalation of M2 macrophage conditioned medium (one time per day for 28-30 days) was well tolerated. Furthermore, olfactometry demonstrated that the patients restored their capacity to perceive (Kruskal-Wallis H test 14.123,  $p = 0.0009$ ) and recognize odors ( $H = 11.674$ ,  $p = 0.0029$ ). In addition, the subjective evaluation of smell significantly improved ( $H = 11.935$ ,  $p = 0.0026$ ). At the 6- to 12-month follow-up, the majority of patients (5/7) reported extremely high levels of satisfaction with the outcomes, and the remaining two patients also felt generally positive about the therapy's success.

**Conclusions:** Overall, our study showed that the use of intranasal inhalations as a method of delivering bioactive factors and the conditioned medium of M2 macrophages as a therapeutic agent are both safe, well tolerated and, according to preliminary data, clinically effective in the treatment of patients with long-term post-COVID-19 hyposmia.

**Disclosure of Interest:** None Declared

### EPP0017

#### Identifying predictors of resilient coping in students during COVID-19 lockdown

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**Introduction:** Although increasing resilient coping throughout life is beneficial, it is particularly important in young people. To prevent the development of mental health problems, it is crucial to understand the factors associated with resilience. However, among university students, the characteristics considered conducive to resiliency have not been sufficiently studied, particularly during pandemic times.

**Objectives:** The present study examined factors associated with resilient coping in Portuguese higher education students during the COVID-19 pandemic.

**Methods:** Data were collected from an opportunity large sample of participants during the academic year 2020/2021. Four self-report measures were utilized within the study: Herth Hope Index, Brief Resilient Coping Scale, Depression Anxiety and Stress Scale – 21 items, and Impact of Event Scale-Revised. Additionally, a demographic questionnaire was used to collect data including age, gender, have children, education level, and study area. Ethics clearance was obtained. In order to test the research question, a multiple

regression was conducted (using SPSS 28), with resilient coping as the dependent variable and the other variables entered as potential predictor variables.

**Results:** A total of 1522 students (75.1% women and 24.9% men) took part in this study. Most participants were single (91.2%), had no children (93%), and the ages ranged from 18 to 59, with a mean age of  $22.88 \pm 6.93$  years. In terms of study level, the majority of students (73.7%) are at the undergraduate level and are not working (76.6%). Among the participants, 35.7%, 36.2%, and 28.5% had symptoms of stress, anxiety, and depression above the normal range, respectively. High resilience scores were found in 215 participants (14.1%). The mean hope (HHI) was 35.53 (SD = 5.92). Our results also demonstrated that hope is the only predictor of resilient coping ( $p < 0.001$ ). A higher level of hope is expected to affect people's psychological adjustment by influencing both their appraisal of, and their coping with, the stressors confronted by them.

**Conclusions:** Establishing and improving protective factors should increase the likelihood of the individual successfully avoiding negative outcomes and increase their ability to function normally, thus promoting resilient outcomes. We were able to draw practical implications for developing resilience-promoting methods in a university context. These results can be used to help students build resilience by preparing for future problems.

**Disclosure of Interest:** None Declared

## EPP0018

### Role of L-Arginine supplementation in Long Covid-related Fatigue and Depression in Elderly Outpatients

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**Introduction:** Chronic fatigue and psychiatric manifestations (depression, anxiety and sleep disturbances) appear to be key features of post-COVID-19 syndrome and increase significantly in prevalence over time (Lavienraj et al. *J Neurol Sci* 2022;434:120162). Several studies have suggested an association between altered levels of arginine metabolites and depression, anxiety and stress severity (Arisoy et al. *J Psychiatr Res* 2020;120:21-28). L-arginine supplementation has also been shown to improve walking performance, muscle strength, endothelial function and fatigue in adults with Long COVID (Tosato et al. *Nutrients* 2022;14(23):4984).

**Objectives:** To study effects of L-arginine oral supplementation on chronic fatigue and depressive symptoms reported 3 months or more after acute COVID-19 onset in elderly outpatients without severe comorbid conditions.

**Methods:** This is a parallel-group, double-blind, randomized controlled trial conducted on 96 over 65 non-hospitalized patients suffering from Long Covid-related fatigue and depression. The first

group included patients that received 1,66 g L-arginine twice a day in addition to a standard antidepressant therapy based on Selective Serotonin Reuptake Inhibitors (SSRIs), whereas the second group received antidepressant only. Severity of fatigue and depressive symptoms was evaluated at baseline and after 8 weeks of treatment using Fatigue Symptom Inventory (FSI) and Hamilton Rating Scale for Depression (HAM-D), respectively.

**Results:** At baseline, 64 patients (66,7%) reported moderate fatigue (4-6) and the remaining 32 (33,3%) reported severe fatigue (7-10). In this phase the average HAM-D score was  $12,85 \pm 5,97$ ; among patients, 57,3% experienced mild symptoms of depression, 32,3% experienced moderate symptoms and 6,4% experienced severe symptoms. After two months, patients treated with L-arginine supplementation exhibited a 30% greater improvement in fatigue-related symptom severity ( $p=0.008$ ) and a significantly decrease in average HAM-D score ( $p=0.002$ ) compared to the group treated with SSRI only.

**Conclusions:** According to our results, adding oral L-arginine to standard antidepressant therapy in elders with Long Covid-related fatigue and depression significantly decreases severity of both physical and affective symptoms. Further studies are needed to clarify the intriguing role of L-arginine in the treatment of Post Covid-19 syndrome and its potential effects in promoting geriatric patients' health, wellbeing and quality of life.

**Disclosure of Interest:** None Declared

## EPP0020

### COVID-19 Infection and Medicines in Pregnancy in Canada

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**Introduction:** Although over 100 million pregnant women worldwide are at risk of infection with SARS-CoV-2, little data exists on the impact of COVID-19 and related treatments on maternal/neonatal health.

**Objectives:** 1) To quantify the prevalence of medication use in pregnancy to treat COVID-19; 2) To quantify and compare the risk of adverse pregnancy/neonatal outcomes in those with and without COVID-19.

**Methods:** In the Canadian Mother-Child population-based cohort (CAMCCO), two key sub-cohorts were identified using prospective data collection of medical services, prescription drugs, hospitalization archives data, and COVID-19 surveillance testing program (02/28/2020-2021). The first cohort included all pregnant women with at least one completed trimester of pregnancy during the study