Results: Only studies using validated instruments for the assessment of cognitive impairment were included. Out of 5478 screened records, 72 studies met inclusion criteria. Time of patients' assessment varied from 4 weeks to 12 months after the infection. The available evidence revealed the presence of impairment in executive functions, attention and memory in subjects recovered from COVID-19. However, several limitations of the literature reviewed should be highlighted: most studies were performed on small samples, not stratified by severity of disease and age, used a cross-sectional or a short-term longitudinal design, and provided a limited assessment of the different cognitive domains. Few studies investigated neurobiological correlates of cognitive deficits in individuals recovered from COVID-19.
Conclusions: Based on the literature reviewed, it is difficult, to date, to draw conclusions about the relationships between COVID-19 infection and cognitive impairment. Therefore, further studies with an adequate methodological design are needed in order to better understand these relationships, identify neurobiological correlates of COVID-related cognitive deficits and evaluate their course over time. Enhancing the knowledge on this topic could favor the development of effective therapeutic strategies for cognitive deficits in individuals recovered from COVID-19.

Disclosure of Interest: None Declared

O0120

Differential Impact of Social Cohesion in the Lens of U.S. College Students with different Sexual and Gender Identities on their Mental Health during the COVID-19 Pandemic

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Introduction: Sexual and gender minority (SGM) college students endorsed higher psychological distress and worsened mental health outcomes than their cisgender heterosexual peers. Such disparity is exacerbated during the COVID-19 pandemic, during which SGM youth may be sent home to unaccepting environments or presented with fewer healthcare options. The "Black lives matter (BLM)" and "Anti-Asian Hate" also exposed college students disproportionally to more witnessed discrimination and poorer social cohesion, which in turn, might negatively affect the mental health outcomes.
Objectives: The present study aims to explore the mental health outcome profile within SGM college students by (1) identify mental health disparities across different sexual and gender identities and (2) evaluating the impacts of discrimination, social cohesion and other factors on mental health outcomes of college students with different sexual and gender identities.
Methods: The study utilizes the 2020-2021 Healthy Minds Study data with 139,470 college students across 60 U.S. campuses. Multivariable regression models are built with minority status to predict mental health outcome (depression, anxiety, and suicidal ideation).
Results: SGM students reported higher symptoms of depression, anxiety, and suicidal ideation. Besides, SGM individuals having experienced or witnessed discrimination or hostile behaviors due to their race/ethnicity also showed worse mental health outcomes. Noted, perceived stronger social cohesion is a protective factor for lower depression (OR: 0.59; 95%CI: 0.45, 0.78) and anxiety (OR: 0.69; 95%CI: 0.51, 0.93) symptoms in SGM, while perceived weaker social cohesion is a risk factor for depression (OR: 1.37; 95%CI: 1.14, 1.64) and anxiety symptoms (OR:1.32; 95%CI:1.09-1.59) in cisgender heterosexual individuals.
Conclusions: These findings acknowledge the negative impact of discrimination on mental health, highlight the importance of recognizing social cohesion affect differently in SGM and their peers, and enhance the understanding of differential impact of social cohesion to inform public policy and early intervention in vulnerable populations during COVID-19 pandemic.

Disclosure of Interest: None Declared

O0121

Helsinki University Hospital Personnel and Covid -19 Pandemic– a two-year follow-up of insomnia and psychological distress symptoms

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Introduction: Covid -19 pandemic challenged health care personnel, especially frontline employees. The increased workload was unevenly distributed.
Objectives: The aim of the present study is to assess potentially traumatic pandemic work-related events (PTEs), psychological distress and insomnia symptoms especially among employees who were in the frontline June 2020, after 24 -month follow-up.
Methods: Participants were recruited from the Helsinki University Central Hospital personnel on June 2020 and followed via electronic surveys for 24 months. Mental Health Index 5 (MHI-5) and Insomnia Severity Index (ISI) was used to assess psychological distress and insomnia symptoms. Potentially traumatic events related to pandemic work (PTEs) were asked. The study is described in detail elsewhere (R1, R2).
Results: On May 2022, early frontline employees from June 2020 (N=1171) continued to report a greater frequency of PTEs compared to those not in early frontline (N=3623) (19.4% vs. 9.5%; OR = 2.29, 95% CI = 1.51–3.46). They did not report statistically significantly greater frequency of psychological distress (14.2% vs. 9.9%; OR = 1.5, CI = 0.96–2.35), nor sleep problems (8.9% vs. 5.8%; OR = 1.57, CI = 0.91–2.72). The difference was not quite significant for the continuously varying MHI-5 scores either ($p = 0.058$ in t-test and $p = 0.064$ for Kruskal-Wallis test), but the continuous ISI scores at the last follow up were still statistically significantly higher for the early frontline employees than for the non-frontline employees (6.82 vs. 5.51; $p = 0.001$ in t-test and $p = 0.001$ in Kruskal-Wallis test). Attrition from the study was higher

among the early frontline personnel compared to others. The odds of no show at 24-month wave were 1.42-fold for those at the frontline (95% CI = 1.2–1.68). This effect was not fully explained by age, sex, profession or having experienced a potentially traumatic event at the baseline.
Conclusions: Early frontline employees who participated the 24 - month follow-up, did not report significantly more psychological distress than other employees. Subthreshold changes in insomnia scale are in line with a recent meta-analysis R3.
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R3. AlRasheed MM, Fekih-Romdhane F, Jahrami H et al. The prevalence and severity of insomnia symptoms during COVID-19: A global systematic review and individual participant data meta-analysis. Sleep Med. 2022 Aug 8;100:7-23.

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O0122

Inflammatory signature of post-COVID-19 depression

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Introduction: Persisting and disabling depressive symptomatology represent a prominent feature of the post-acute COVID-19 syndrome. Sars-CoV-2-induced immune system dysregulation mainly result in a cytokine storm. Once in the brain, inflammatory mediators negatively affect neurotransmission, microglia activation, and oxidative stress, possibly disrupting critical brain neurocircuits which underpin depressive symptoms. So far, only inflammatory markers based on leukocyte counts have been linked to depressive outcome in COVID survivors. However, an accurate immune profile of post-COVID depression has yet to be elucidated.
Objectives: Identify inflammatory mediators that predict post-COVID depression among a panel of cytokines, chemokines, and growth factors, with a machine learning routine.
Methods: 88 COVID age- and sex-matched survivors' (age 52.01 ± 9.32) were screened for depressive symptomatology one month after the virus clearance through the Beck Depression Inventory (BDI-13), with 12.5% of the individuals scoring in the clinical range (BDI-13 ≥ 9). Immune assay was performed through Luminex system on blood sampling obtained in the same context. We entered 42 analytes into an elastic net penalized regression model predicting presence of clinical depression, applied within a 5-fold nested cross-validation machine learning routine running in MATLAB. Significance of predictors was evaluated according to variable inclusion probability (VIP), as returned by 5000 bootstraps. Socio-demographics, previous psychiatric history, hospitalization, time after discharge were used as covariates.
Results: The model reached a balance accuracy of 73% and AUC of 77%, correctly identifying 73% of people suffering from clinically relevant depressive symptoms (Figure1). Depressive symptomatology was predicted by high levels of CCL17, ICAM-1, MIF, whereas CXCL13, CXCL12, CXCL10, CXCL5, CXCL2, CCL23, CCL15, CCL8, GM-CSF showed a protective effect (Figure2).
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