Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
this study aims to investigate the knowledge, attitudes and practices of MS patients during COVID-19 pandemic.

Methods
A telephone-based survey which recruited patients from Kasralainy Multiple Sclerosis Unit database, Cairo University hospitals from March 2020 till July 2020. It included 127 patients and an Arabic questionnaire was conducted which consisted of 14 questions including: Demographic data; MS related data, Data related to COVID-19 and attitude and awareness related to COVID-19.

Results
Near quarter of the patients were still working in their current jobs, only 12.8% on current leave due to Covid-19 while the majority were non-employed (66.4%). The majority of patients (64%) were compliant to their medications. Treating physician advised to stop DMT in 20.4% while 10.2% of patients stopped due to fear of side effects. Only 16.54% of the patients developed COVID-19 symptoms. The majority (89.2%) avoided visiting any medical institution. Different ways of communication were used by patient when any medical advice was needed. Facebook and WhatsApp applications represented almost half of the tools used to communicate.

Conclusions
Patients with MS report increased awareness of COVID-19 precautions with high rate of DMT compliance.

doi:10.1016/j.jns.2021.119787

119788
Can sars-cov-2 infection exacerbate Alzheimer’s disease? A systematic review

Villa Chiaraa, Efthalia Angelopouloub, Christina Piperb, 4University of Milano-Bicocca, Dept. Medicine and Surgery, Monza, Italy, bNational and Kapodistrian University of Athens, Dept. of Biological Chemistry, Medical School, Athens, Greece

Background and aims
The ongoing coronavirus disease 2019 (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus (SARS-CoV-2) is having unprecedented effects in healthcare systems, economies and society. Although the respiratory tract is the primary target of SARS-CoV-2, emerging evidence suggests that the virus may also invade the central nervous system (CNS), leading to numerous neurological issues. In particular, people with Alzheimer’s disease (AD) are vulnerable group at risk of contracting COVID-19 and present more severe forms and worse outcomes. Given the high prevalence of AD individuals affected by COVID-19, the aim of was to review common underlying etiological factors that may contribute to the acceleration of neurodegenerative processes in SARS-CoV-2-infected patients.

Methods
PubMed database was searched for publications before 1st April 2021 using the keywords: “Alzheimer’s disease” AND “COVID-19” AND “SARS-CoV-2”.

Results
Inflammatory biomarkers, including IL-1, IL-6 and galectin-3 (Gal-3) are associated with high risk for developing COVID-19 and with the progression of AD. Moreover, SARS-CoV-2 infection exhibit high plasma levels of neurofilament light chain protein (NFL) and glial fibrillary acidic protein (GFAP), known as biochemical indicators of neuronal injury and glial activation in AD. Interestingly, the presence of the Apolipoprotein E (APOE) ε4 allele represents a risk factor for both diseases.

Conclusions
Current literature suggests the existence of a synergistic relationship between COVID-19 and AD. The identification of potential biomarkers for the early identification of COVID-19 in patients with high risk of developing AD as well as the management and development of novel therapeutic strategies against both diseases.

doi:10.1016/j.jns.2021.119788

119789
Risk factors for covid-19 vaccine hesitancy at a neuroscience center: Quality improvement survey

Michelle Pang1, Tate Higashihara2, Kimberly Teehera2, Frances Morden3, Connor Goo4, Kyung Moo Kim5, Rachel Lew5, Kayti Luu6, Cori Sutton7, Shaina Yamashita7, Catherine Mitchell8, Enrique Carrazana9, Jason Viereckab, Kore Liowab, Arash Ghaffari-Rafif, aUniversity of Hawai'i at Mānoa, John A. Burns School of Medicine, Honolulu, United States of America, bHawaii Pacific Neuroscience, Clinical Research Center, Honolulu, United States of America

Background and aims
This quality improvement (QI) survey aimed to identify risk factors for COVID-19 vaccine hesitancy among patients with a neurological disorder.

Methods
A telephone QI survey was conducted of randomly selected adult Hawaii Pacific Neuroscience patients between January 22 and February 13, 2021. The survey assessed vaccine perception in relation to over 30 sociodemographic variables and medical comorbidities. Nonparametric univariate and multivariable logistic regression models with alpha <0.05 were utilized.

Results
From the 1494 patients contacted, 363 were respondents, with 81.34% planning to vaccinate. Odds of COVID-19 vaccination acceptance were significantly lower for patients on Medicaid (0.42, IQR: 0.22, 0.82; X² = 7.18, p = 0.00074), with drug use (0.32; IQR: 0.11, 0.96; X² = 4.73, p = 0.030), whose primary source of COVID-19 information was social media (0.26, IQR: 0.11, 0.63; X² = 10.71, p = 0.0011), and who did not receive the most recent influenza vaccine (0.20, IQR: 0.11, 0.36; X² = 33.38, p = 7.57 x 10⁻9). After multivariable logistic modeling, the best predictors of declination were use of social media as a primary source of COVID-19 information, concerns of vaccine safety, self-perception of a pre-existing condition compromising vaccination safety, not receiving the influenza vaccine within the past year, having completed some high school education, being a current smoker, and having no history of cerebrovascular accident.

Conclusions
Patients with neurologic disorders present with unique risk factors for vaccine hesitancy, which may require special attention and vaccine counseling.

doi:10.1016/j.jns.2021.119789