The Mary S. Easton Center for Alzheimer’s Disease Research at UCLA has very active teams working on basic research, drug discovery, biomarkers for early diagnosis and clinical activity including clinical trials, cognitive testing, and patient care.

Challenges and Silver Linings of the Coronavirus Pandemic

By: Sarah Kremen, M.D.

The novel coronavirus, severe acute respiratory syndrome with SARS-CoV-2 infection, which causes the Coronavirus Disease 2019 (COVID-19) syndrome, emerged in December 2019. By March 11, 2020, when the World Health Organization (WHO) declared the COVID-19 syndrome to be a pandemic, it had already begun to upend regular routines for many people. Usual in-person activities at the Mary S. Easton Center for Alzheimer’s Disease Research at UCLA (UCLA-Easton Center) were forced to an abrupt halt in mid-March. The following is a review and reflection upon how the SARS-CoV-2 pandemic has challenged our program, but has also provided some silver linings.

Our clinicians, Drs. McMurry and Kremen, and Kelsey Stander, N.P., quickly transitioned to remote telemedicine video visits with our UCLA Dementia and Memory Disorders Clinic patients as part of the effort for the Neurology Clinic to reduce face-to-face visits at the beginning of the “Stay-at-Home” or “Shelter-in-Place” orders. This mode of care was already in place in the General Neurology Clinic, but the UCLA Dementia and Memory Disorders Clinic was not previously able to utilize this option because the majority of our patients use Medicare, and Medicare did not allow such visits. The advent of COVID-19 pushed the Centers for Medicare & Medicaid Services (CMS) to allow telemedicine as an acceptable form of medical care delivery for older adults. Despite concerns about whether our patients and their families would be able to navigate this novel mode of communication, we forged ahead. We have successfully seen most of our return patients and evaluated new patients remotely without many glitches. Telemedicine has allowed us to stay in touch with our patients, and provided a new way for us to provide care safely at a distance. Many patients have been happy to receive care without having to travel to Los Angeles’ west side. As of June, the Neurology clinic is open to see patients in-person on a reduced but similar pre-COVID-19 schedule. However, we now envision that the option for telemedicine visits will become a new option for memory care moving forward.
We serve a population of patients who are at risk for COVID-19, either because they are older, or because they have dementia. All of our patients and their family members have been affected in some way. Some patients and caregivers have had their usual routines erased because community day programs are cancelled. Other patients and caregivers have not been able to see each other because care facilities had to shut their doors to outsiders to reduce the risk of COVID-19 introduction from the general community. Caregivers have been experiencing extreme stress – loss of routine, the need to repeat to their loved one why it is not safe to go out to the store, increased burden of caregiving, fear of what would happen if they contract COVID-19 and become too ill to care for their loved one. Patients are also experiencing stress – for some, the loss of routine is leading to agitation and delirium; for others, it is leading to boredom. All of the measures we usually suggest to help people with dementia and cognitive disorders – to increase social and cognitive engagement, to exercise, to maintain a regular sleep schedule – are hard to do during a Stay-at-Home order.

With the advent of COVID-19, Monica Moore, M.S.G., our Education and Outreach Manager, quickly pivoted to virtual activities. Our regular in-person support groups for caregivers of people with Alzheimer’s disease (AD) and dementia with Lewy bodies (DLB) went virtual and the demand for such an outlet to express concerns and to feel less isolated has been high. Being virtual has meant that many people who couldn’t attend our weekly midday or evening in-person events are now able to participate. Caregivers, old and new, from Malibu to San Diego are attending our support groups. We are especially excited that our DLB group, the only such support group in the LA area, has grown during this time because of our new virtual reach.

The decision to put the Sidell-Kagan Program onto a hiatus status was a difficult one on many levels. Our participants are dedicated to our studies and we feel dedicated to them in providing a way to be involved in research and have a chance at receiving an investigational treatment. However, we felt that safety for our older population was of utmost importance. After 4 months of monthly telephone visits, we resumed our in-person visits the latter part of June. Our daily routine is different; our staff is on campus in shifts to ensure safe distancing. Our participants are pre-screened for COVID-19 symptoms and escorted directly to treatment spaces instead of arriving independently to waiting rooms. We are heartened by the continued enthusiasm of all of our participants to remain with our trial program during these challenging times, and to not lose sight the common goal of finding a successful treatment for AD.

Alzheimer’s trials, which are some of the longest and most complicated trials in medicine, have been greatly affected by COVID-19 worldwide. Numerous sequential missed participant visits means many participants are not receiving an infusion or experimental drug on time or as designed, and many measures, such as brain scans and cognitive tests, are now off-schedule. COVID-19 is compelling study sponsors to re-evaluate how clinical trials can be carried out differently in order to continue AD research. New statistical analyses are being developed to account for large gaps of missing data. Protocols requiring in-person cognitive testing are now being re-assessed for virtual administration, which requires new test validation, and new procedures for distribution of test tablets. Nursing visits to deliver home infusions are going to become more common. All of these changes will positively impact future study design, incorporating flexibility of data collection and broadening the reach of recruitment of interested eligible individuals who live further from trial sites.

Like many laboratories across the country, the basic science labs in the UCLA-Easton Center were rapidly ramped down to minimal operation by mid to late March. Worldwide, many scientists had to make quick and difficult decisions, especially in labs using animal models – which studies would they be able to keep going, which projects
should they abandon? The return to campus is now in full swing, and lab procedures have changed dramatically. Lab members are doing their work in shifts in order to keep to the 250 square feet of space per researcher while safely carrying out their AD research.

Though the most commonly associated symptoms of COVID-19 are shortness of breath, dry cough, and fever, we are learning that the virus can enter the nervous system and cause loss of sense of taste and smell, seizures, strokes, Guillain-Barré syndrome and myopathy. Acutely, because of its effect directly on the brain in the form of encephalitis, or indirectly because of its effect on the kidneys causing failure, it can cause cognitive difficulties. What remains to be seen is whether it will have an effect on neurodegenerative diseases like Alzheimer’s in the future, particularly in people who those people who are only mildly or asymptomatic.

Inflammation is believed to be one of the earliest factors involved in normal aging and neurodegenerative diseases like AD. The SARS-CoV-2 virus causes a pro-inflammatory state in the body signaled by upregulation of harmful cytokines and inflammatory mediators (e.g. IL-1, IL-6, TNF-α). An open question now is whether the virus may accelerate physiological aging or hasten the development of a neurodegenerative disease in people who have had COVID-19. As AD researchers expand their lines of investigation into the interaction between apolipoprotein E4 (ApoE4), inflammation, amyloid, and tau, and look for molecules that could stop such interactions, viral infections such as COVID-19 are now being considered as well. One such example is work being done in the UCLA-Easton Center’s Drug Discovery Laboratory led by Dr. Varghese John. His team recently received an R21 grant entitled "Screening for SORLA enhancers and evaluation in AD models". SORLA is a protein that blocks the amyloidogenic process, and could be a powerful way to prevent AD. Dr. John’s lab has submitted a supplement for the lab’s original grant based on the urgent notice from the NIA to also evaluate the SORLA enhancers for their ability to suppress neuronal oxidative stress and tau phosphorylation thought to be involved in viral-induced neurodegeneration and dementia.

**MOVING FORWARD DURING COVID-19**

The SARS-CoV-2 pandemic has caused upheaval to all of us. We will look back on it as a major event that affected all of humanity, like other pandemics, or world wars, or famines. However, it has also forced us out of our usual routines and work rubrics in some ways that are beneficial. It is the latter that we must remember as we continue to focus on caring for people with AD and search for an effective treatment.

**Sources used for this article:**


Alzheimer’s Los Angeles Early Career Investigator Award

Mirella Díaz-Santos, Ph.D., is this year’s Honoree for the 2020 Early Career Investigators Award for her research focusing on how bilingualism and other cultural factors alters early phenotypical expression of Alzheimer’s disease.

Every Spring, Alzheimer’s Los Angeles honors emerging researchers early in their career. This award honors both the work they are currently doing and their potential to contribute significantly to the field of Alzheimer’s research now and in the future. This year’s awards were made possible by the generosity of Helena Chui, M.D. at the Keck School of Medicine of University of Southern California.

Clinical Research Opportunities

If you would like to advance Alzheimer's disease research, please consider being a study participant. Below are the current recruiting trials. For a complete list of enrolling studies, visit our website at www.eastonad.ucla.edu or call the Kagan Clinical Trials office at (310) 794-6191.

EASTON CENTER KAGAN CLINICAL TRIALS PROGRAM

- Alzheimer’s Disease Neuroimaging Initiative 3 (ADNI3) Protocol
- NEAT (Nicotinamide as an Early Alzheimer’s Disease Treatment) Study

BEHAVIORAL NEUROLOGY PROGRAM

- Early-onset Alzheimer’s Disease Phenotypes: Neuropsychology and Neural Networks

OTHER PROGRAMS

- Curcumin and Yoga Therapy for Those at Risk for Alzheimer’s Disease
- Effect of Grapes Dietary Supplement on Brain Metabolism and Cognition
- The UCLA Caregiver Sleep (CARES) Study

Caregiver Support Groups

In collaboration with the UCLA Alzheimer’s and Dementia Care Program, the UCLA-Easton Center is pleased to offer seven different caregiver support groups for family members providing either direct or indirect care for someone with Alzheimer’s Disease or another form of dementia. These support groups are FREE and provide a supportive environment in which to give and receive emotional and practical support from others who are on the same caregiving journey.

Our Lewy Body Dementia, FTD, Young Onset Dementia, and General Dementia Caregiver support groups continue to be offered via HIPAA compliant Zoom to adhere to COVID-19 precautions. Click here for a complete list of these support groups. Please email Monica Moore at MRMoore@mednet.ucla.edu for information and access link and password.
**Caregiver support group highlight**

**Spanish Speaking Caregiver Support Group**

**Date:** Every Monday of each month  
**Time:** 1:30 P.M. – 3:00 P.M.  
**Virtual Forum**

The Spanish Speaking Caregiver Support Group has moved to Monday afternoons from 1:30 PM - 3:00 PM via Zoom. Please contact **Mirella Díaz-Santos** at **MDiazSantos@mednet.ucla.edu** for access information.

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For more information on our upcoming lectures and events, please visit the Easton Center **Community Calendar**.

**Update on Alzheimer’s Disease Research**

Co-sponsored with Alzheimer’s Los Angeles  
**Date:** Wednesday, July 8, 2020  
**Time:** 10:00 A.M. – 11:30 A.M.  
**Virtual Forum**

Hear the latest findings around the symptoms and causes of dementia and Alzheimer’s disease. Learn about treatments available and what research is being conducted to find a cure.

Please call **844.HELP.ALZ (844-435-7259)** or send an email to **help@alzla.org** to RSVP and access information.

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**Dementia Specific Strategies in Time of Social Distancing**

**Date:** Monday, July 13, 2020  
**Time:** 10:00 A.M. – 11:30 A.M.  
**Virtual Forum**

Monica Moore, M.S.G., Community Health Program manager will discuss the challenges that people with dementia and their care partners are faced with due to social distancing. She will also discuss strategies to alleviate these challenges and adapt to the new normal of these times.

Please email **Monica Moore** at **MRMoore@mednet.ucla.edu** for RSVP and access information.

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