which allows direct data access by ADCs. In-person training of clinical and neuropsychological representatives from all ADCs has been accomplished (web-based training also is available). The UDS was formally implemented across all ADCs on September 1, 2005. All UDS data are submitted to the NACC database for detailed quality control and error checking. **Conclusions:** The UDS represents a collaborative milestone for the ADC Program and is a standard clinical and cognitive assessment protocol for MCI and AD and nondemented aging.

## P2-098 EFFECTS OF DONEPEZIL ON SLEEP IN PATIENTS WITH MILD TO MODERATE ALZHEIMER DISEASE: WITH ACTIGRAPHIC MONITORING

**Hong-Beom Shin**, *Eulji Medical Center, Seoul, Republic of Korea. Contact e-mail: shinhb@gmail.com*

**Background:** Effects of donepezil on sleep of Alzheimer disease were controversial. **Objective(s):** Objective of this study is to examine the effects of donepezil on Alzheimer patients' sleep quality in objective and subjective measures. **Methods:** This is a 2-week, cross-over design study on 16 subjects (male: female = 10:6) with mild to moderate Alzheimer disease. The efficacy(MMSE-K) and objective(using ActiWatch®, wrist-worn actigraphy) and subjective(Pittsburgh Sleep Quality Index(PSQI)) changes in sleep, before and after administration of donepezil 5 mg, were compared. Effects of donepezil on the measures were evaluated by paired t-test. **Conclusions:** Objective sleep quality (assessed by sleep efficiency, wake time after sleep onset, length of undisturbed sleep) was not changed after administration of donepezil. Donepezil was not associated with deterioration of PSQI total score and improved MMSE-K score from 19.3 to 21.0 with significance.Donepezil did not negatively affect sleep quality in subjective and objective measures in Alzheimer.

## P2-099 BIOPSY-PROVEN YOUNG-ONSET ALZHEIMER'S DISEASE WITH PARKINSONISM

**Mun Seong Choi**[1], Jae Hong Lee[2], *[1]Maryknoll Hospital, Busan, Republic of Korea; [2]Asan Medical Center, Seoul, Republic of Korea. Contact e-mail: muschoi@chollian.net*

**Background:** There are many reports noting a high prevalence of extrapyramidal signs(EPSs) in A.D. patients. Clinical evidence of extrapyramidal dysfunction is detected in approximately one-third of A.D. patients. This is usually characterized by rigidity and bradykinesia with tremor occuring to a lesser degree. The presence of EPSs has been associated with diminished functional capacity, increased neuropsychological disturbances, and greater severity of dementia. **Case:** A 55-year-old right-handed old man had been rapidly progressively deteriorated by global cognitive dysfunction on neuropsychological test with EPSs(bradykinesia, rigidity, and festinating gate) from 5 years ago. He underwent Magnetic Resonance Imaging (MRI) and F-18-FDG Positron Emission Tomography(PET). MRI showed diffuse cortical atrophy. Results from F-18-FDG brain PET demonstrated bilaterally severely decreased temporoparietal hypometabolism and moderately decreased frontal hypometabolism. On biopsy of parietal cortex, there were moderate amounts of neuritic plaques with several Congo-red(+) amyloid cores and neurofibrillary tangles in pyramidal neurons. **Conclusions:** We report a young-onset A.D. patients with parkinsonism on MRI, F-18-FDG brain PET, neuropsychological and neuropathological findings.

## P2-100 FACTORS INFLUENCING THE FREQUENCY OF DEMENTIA EVALUATIONS IN A POPULATION-REPRESENTATIVE SAMPLE IN THE UNITED STATES

**Norman L. Foster**[1], Brenda Plassman[2], Kenneth Langa[3], Gwenith G. Fisher[3], Bruno Giordani[3], Robert Wallace[4], *[1]University of Utah, Salt Lake City, UT, USA; [2]Duke University, Durham, NC, USA; [3]University of Michigan, Ann Arbor, MI, USA; [4]University of Iowa, Iowa City, IA, USA. Contact e-mail: norman.foster@hsc.utah.edu*

**Background:** Early interventions are most effective for treating dementia, but there is often a delay of several years after symptom onset before medical advice is sought. Many never receive a dementia evaluation or learn the cause of their symptoms, substantially impeding care. **Objectives:** To ascertain how demographic and economic factors influence the frequency of community diagnostic evaluations in individuals found to have dementia in a research study. **Methods:** We performed in-home neurological and neuropsychological evaluations in the Aging, Demographics, and Memory Study (ADAMS), a stratified subsample of 856 participants in the Health and Retirement Study (HRS), a representative population sample in the United States. A consensus panel reviewed the research evaluations and determined whether dementia was present. Knowledgeable informants for each subject were asked whether a prior evaluation for memory problems had been performed. We also obtained and reviewed available medical records for these subjects. **Results:** A total of 308 individuals in ADAMS had a research diagnosis of dementia (mean age 85; mean education 9.5 years; 31% men, 69% women; 73% white, 23% African-American). A community physician had evaluated 47% of the demented subjects. The cause of memory problems in the 145 demented individuals was reported only as dementia in 28% and informants were uncertain whether the physician had identified a cause in 14%. When a specific diagnosis was reported, it was Alzheimer's disease in 27%, stroke or TIA in 14%, other conditions in 16%, and normal aging in 2%. The likelihood of a prior dementia evaluation increased with dementia severity ($p=0.0001$), younger age ($p=0.01$), more education ($p=0.03$), higher household net worth, and female gender (odds ratio 2.24, $p=0.001$). Geographic region, marital status and race did not significantly affect the likelihood of evaluation. **Conclusions:** Even in the minority of demented patients who were previously evaluated, family members often don't know the specific cause. Demographic and economic factors are important determinants of whether a dementia evaluation is performed, and substantial efforts will be needed to achieve early and specific treatment of dementing disorders.

Supported by the Utah Center for Alzheimer's Care, Imaging and Research and NIH Grant U01 AG09740.

## P2-101 IMPAIRED AWARENESS OF DEFICITS IS ASSOCIATED WITH NEUROPSYCHIATRIC SYMPTOMS AND CAREGIVER DISTRESS IN EARLY ALZHEIMER'S DISEASE: THE DAISY STUDY

**Asmus Vogel**[1], Frans B. Waldorff[1,2], Gunhild Waldemar[1], *[1]Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark; [2]Research Unit and Department of General Practice, Institute of Public Health, University of Copenhagen, Copenhagen, Denmark. Contact e-mail: asmus.vogel@rh.hosp.dk*

**Background:** Many patients with early Alzheimer's disease (AD) have impaired awareness of deficits (anosognosia). Patients with anosognosia do not acknowledge their cognitive deficits and the implications of these. Therefore, they may have more behavioral/neuropsychiatric symptoms. Further, anosognosia may lead to more caregiver distress. Few studies have investigated these issues. **Objective:** To investigate if impaired awareness of deficits was associated with higher frequency of neuropsychiatric symptoms and more caregiver distress in a large sample of patients with early AD. **Methods:** All included patients participated in a prospective, multicenter, randomized placebo-controlled study of the effect of early psychosocial intervention (Danish Alzheimer Intervention Study). Inclusion criteria were a diagnosis of probable AD, age above 49 years and MMSE score above 19. At baseline 331 patients were assessed. Awareness of deficits was rated on the three-point categorical scale (Anosognosia Rating Scale). Neuropsychiatric symptoms and caregiver distress were assessed