

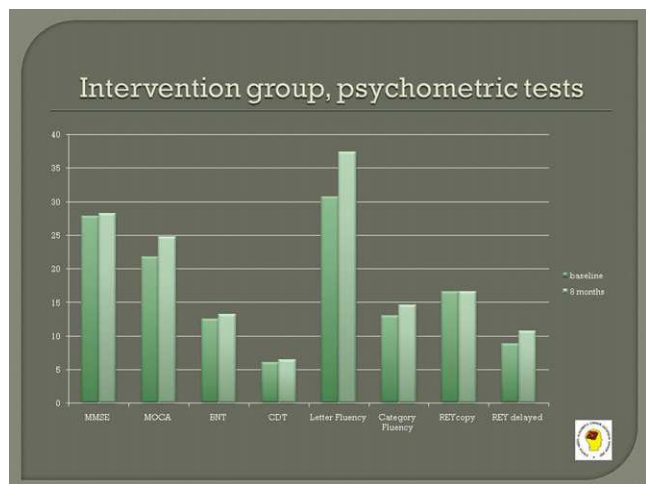
Figure 1. Flow Sheet For Study

P3-400

**NON-PHARMACOLOGICAL INTERVENTION: EFFECTIVENESS OF A MULTI-COMPONENT REHABILITATION PROGRAM ON COGNITIVE FUNCTIONS OF PEOPLE WITH MILD COGNITIVE IMPAIRMENT**

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**Background:** At the Day Care Centre of the Athens Association of Alzheimer's Disease and Related Disorders, people with dementia and their families can attend a wide range of non pharmacological therapies (cognitive training, cognitive stimulation, reminiscence therapy, reality orientation therapy, physical exercise, stress management programme, psychoeducation programme etc). The present study evaluates the results of an intervention program for people with Mild Cognitive Impairment (MCI) including cognitive and physical training and compares them with a random control group of people with MCI. **Methods:** 24 MCI patients aged 70 (± 7) years participated in a three-hour program delivered twice a week for 8 months and were compared with a control group of 20 MCI patients aged 67 years (± 8). Demographics were recorded for both groups. Patients' cognitive performance was measured before and after the intervention (Mini Mental State Examination, Montreal Cognitive Assessment, Clock Drawing Test, Verbal Fluency, BNT-15, Simplified Rey Figure). The statistical package for the social science (SPSS, version 13) was used to analyse data collected. **Results:** The intervention group showed improvement at the end of the eight-month period in most of the psychometric test. MoCA (F = 6.82, p = .017 and Verbal Fluency (F = 24.66, p = .001) significantly differed between the intervention and control group according to the analysis of covariance that was conducted. **Conclusions:** According to literature, people with MCI in this study seem to benefit from the multi-component rehabilitation programme in comparison to control group. Cognitive training and physical exercise seem to be the non pharmacological therapy of choice for people with MCI.

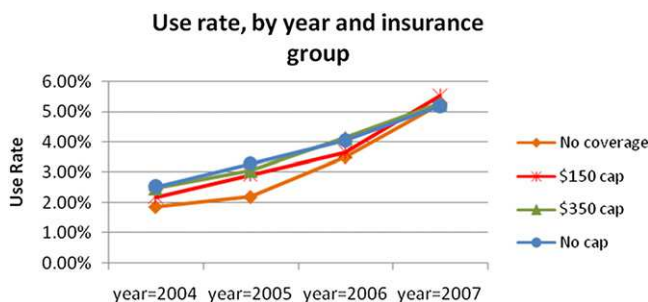


P3-401

**IMPACT OF PRESCRIPTION DRUG COVERAGE ON USE OF ANTI-DEMENTIA DRUGS**

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**Background:** Dementia is an incurable disease. The most promising advances in treatment include cholinesterase inhibitors and memantine. Use of these expensive medications is controversial due to limited evidence in achieving clinically meaningful improvements. While use has substantially increased, the relationship between insurance for drugs and uptake of anti-dementia drugs is unknown. Given the less robust evidence-base, we hypothesized that insurance for drugs would not impact use of anti-dementia drugs and that beneficiaries with less generous drug coverage would experience less use. **Methods:** A retrospective cohort study of Medicare managed care beneficiaries aged ≥65 years who were alive and continuously enrolled in one of the largest Medicare Advantage plans in Pennsylvania from 2003-2007 (n = 35,102). We describe the uptake of anti-dementia drugs before and after Medicare Part D's using pharmacy and medical claims. The primary independent variable in the negative binomial regression with GEE is the type of pharmacy benefit group: no quarterly pharmacy benefit limits (no cap) (n = 9,487); pharmacy benefit limits [quarterly limits of \$150 (n = 2,662) or \$350 (n = 19,104)]; or no drug coverage (n = 3,939). **Results:** Before Part D, the no coverage group experienced the largest growth in use -1.85% in 2004, 2.18% in 2005, 3.50% in 2006 and 5.26% in 2007. 1,197 (3.4%) beneficiaries had at least one prescription pre-Part D and 1,846 (5.3%) post-Part D. Unadjusted increases in uptake among those with at least one prescription pre-Part D did not differ by insurance group. Multivariable analyses show increasing use within each insurance group is significant, yet the increasing rate between all the groups and the no cap intervention group is not statistically different. **Conclusions:** Despite weak effectiveness evidence, anti-dementia drugs have experienced increased use between 2004-2007. Our findings show that anti-dementia drugs are less sensitive to price than some other drugs and that increase has occurred over time despite insurance coverage or price. We believe that these results are, in part, based on the hopelessness and fear that this disease invokes in patients and their families and that physicians continue to prescribe these drugs and patients are willing to pay for them.



P3-402

**A RANDOMIZED TRIAL EXAMINING RECALL AND DISTRESS AFTER TELEPHONE VERSUS IN-PERSON DISCLOSURE OF GENETIC RISK INFORMATION ABOUT ALZHEIMER'S DISEASE: THE REVEAL STUDY**

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**Background:** Genetic susceptibility testing of asymptomatic individuals for risk of Alzheimer's disease using Apolipoprotein E (*APOE*) may become an important part of determining future prevention or treatment strategies, but traditional in-person protocols for disclosing test results are resource- and time-intensive. The REVEAL Study is a series of NIH-funded, multi-center clinical trials examining the impact of *APOE* genetic testing for Alzheimer's disease (AD) risk. In this study, we compared telephone disclosure versus in-person disclosure on measures of information recall and distress. **Methods:** *APOE* genotypes, and AD risk estimates based on genotype, family history, ethnicity and gender (risk range: 6%-70%; mean: 29%) were disclosed to 257 healthy adults. Participants were randomized to receive results from a genetic counselor via telephone versus in person. Recall was assessed at follow-up by asking participants to report (a) their genotype, (b) whether or not they carried risk-increasing alleles, (c) their lifetime AD risk estimates and (d) their remaining AD risk estimates. Test-specific distress was also measured using the Impact of Events Scale (IES). **Results:** Six weeks after disclosure, most participants correctly recalled their genotype (73%), carrier status for the risk-increasing form of *APOE* (87%), lifetime AD risk estimate within 5 points (85%) and remaining AD risk estimate within 5 points (90%). Differences by disclosure method were not evident on any of those four items ( $\chi^2=98-2.45, p=.12-.32$ ). IES scores six weeks after disclosure averaged well below clinical cutoffs for concern (mean: 3.9) and did not differ by disclosure method after controlling for demographic and study-related factors ( $\delta=.87, p=.27$ ). **Conclusions:** Telephone disclosure of AD genetic susceptibility test results is as effective as in-person disclosure, at least on outcomes of information recall and distress. Such protocols will be essential to implement given the limited number of specialists trained to communicate genetic risk information and the increasing visibility and utility of genetic susceptibility testing. Further analyses are underway to assess the impact of telephone disclosure on provider burden, patient satisfaction, and behavioral responses.

## P3-403

### COGNITIVE TRAINING ON ELDERLY JAPANESE IN OSAKA: MAJOR OUTCOME (ADAS) FROM PROSPECTIVE, RANDOMIZED, OPEN, BLIND-ENDPOINT TRIAL

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**Background:** In Japan, cognitive training (CT) has become popular. Adult day-care facilities where occupational / recreational therapy (ORT) are commonly performed also have become prevalent instantly after the long term care insurance started. Though many different kinds of non-pharmacological programs are running, the evidence of the effectiveness is still limited. **Methods:** A volunteer sample of 114 persons whose MMSE scores were 15 or more was recruited from six adult day-care facilities in Osaka. Participants in each institute were randomized into two groups. MMSE score, age, the duration of education were matched. We addressed not only cognitive functions but also biological status such as genotype and biological markers related to dementia. One group participated in CT (simple arithmetic calculation including simulation of daily living shopping and reading Japanese elementary school textbook aloud), the other group participated in ORT (painting and handicraft). The same number of therapists per participants was allocated in two interventions. They attended twice a week for 30 minutes, and continued for six months. Main outcome focused on change of cognitive function using ADAS which was assessed by blinded clinical psychotherapists. **Results:** CT and ORT were well tolerable for the elderly at adult day-care facilities (mean age was 84, mean MMSE score was 21). As a whole, ADAS-cog score in CT group improved significantly compared to baseline, and compared to ORT group. In subgroup analyses, participants without stroke history and cognitive impaired participants responded to CT, participants with stroke

history responded to ORT. *APOE* 4 had no significant effect to interventions. Participants with KIBRA SNP (rs17070145) C allele (low episodic memory) responded to ORT. Fun and satisfaction during the programs didn't affect ADAS-cog change. **Conclusions:** Our results suggested that cognitive training maintained and improved cognitive abilities especially for participants without stroke history and cognitive impaired participants at adult day-care facilities. Occupational / recreational therapy was effective for participants with stroke history or with KIBRA SNP (rs17070145) C allele.

## P3-404

### RELATIONSHIP BETWEEN PATIENT DEPENDENCE ON OTHERS AND CLINICAL MEASURES OF COGNITION, FUNCTION AND BEHAVIOR IN ALZHEIMER'S DISEASE (AD): RESULTS FROM A LONGITUDINAL STUDY

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**Background:** Dependence on others for care needs has been recommended as a unifying construct in defining severity in AD. Much of the support for the dependence construct has been based on cross-sectional data showing relationships between dependence, measured using the Dependence Scale (DS), and clinical measures of cognition, function and behavior. The objective of this study is to measure how these relationships change over time. **Methods:** An analysis of data from participants with AD enrolled in a longitudinal observational study from 39 study sites across the United States and Europe, was conducted. The study was conducted between 2006 and 2009 and the entry criteria were similar to those used in the Alzheimer's Disease Neuroimaging Initiative (ADNI). The DS (range 0-15), and measures of cognition, Mini Mental State Inventory (MMSE; range 0-30), function, Disability Assessment for Dementia (DAD; range 0-40) and behavior, Neuropsychiatric Inventory (NPI; range 0-144) were administered at 6-monthly intervals. The relationship between changes in the DS over 1 year and changes in MMSE, DAD and NPI was examined for patients with concurrent DS, and the 3 clinical measures at 2 time points, one year apart, using Pearson correlation coefficients. In addition, a repeated measures model examined the relationship between the DS and the three clinical measures over 3 sequential, 6-month time points. **Results:** 196 participants with AD were recruited in this study. The mean score changes for the DS, MMSE, DAD and NPI over the 1 year interval examined were 0.83 (N=69), -1.50 (N=142), -7.55 (N=140), 0.93 (N=138), respectively. Significant correlations between the change in DS summated score and changes in MMSE ( $r=-0.38; p < 0.005$ ), DAD ( $r=-0.37; p < 0.005$ ) and NPI ( $r = 0.29; p < 0.05$ ). The repeated measures models confirmed significant relationships between the DS and MMSE ( $DS=10.6778 - 0.2599*MMSE, p < 0.0001$ ), DAD ( $DS=11.1167 - 0.08222*DAD, p < 0.0001$ ) and NPI ( $DS = 4.6392 + 0.08851*NPI, p < 0.0001$ ). **Conclusions:** The relationships observed in previously published cross-sectional analyses were confirmed longitudinally. These data further support the concept of dependence on others for care needs as a potential method of translating the effect of changes in cognition, function, and behavior into a more holistic description of AD progression.

## P3-405

### THE EFFECT OF VIGNETTE ACTIVITY ON THE NEUROPSYCHIATRIC BEHAVIOURS EXPRESSED BY INDIVIDUALS WITH DEMENTIA, LIVING IN LONG-TERM CARE

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**Background:** Currently 500,000 individuals in Canada are living with dementia with a predicted increase to 1-1.3 million by 2035. Related care costs are expected to be 872 billion dollars by 2038. The prevalence of dementia in Canadian nursing homes was 45.4% in 2008. The greatest contributors to cost and challenges for caregivers are neuropsychiatric behaviors. Current pharmaceutical approaches demonstrate only modest success and clinical significance is questioned. Antipsychotics and anxiolytics used in severe