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A biopsychosocial approach to Alzheimer's disease prevention in women

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BACKGROUND

- Women represent two-thirds of Alzheimer's disease (AD) cases, illustrating a sex-based disparity.
- As our understanding of modifiable lifestyle factors and their impact on dementia risk grows, there is greater opportunity to reduce AD risk and sex-based disparity through prevention interventions.
- In 2020, Cleveland Clinic Nevada opened the Women's Alzheimer's Movement Prevention and Research Center, the first AD risk reduction center designed specifically for women.
- The Center offers comprehensive assessment and personalized recommendations for dementia risk reduction and emphasizes psychosocial intervention to address factors that present barriers to behavioral change.
- The goals of the present study are to 1. describe dementia risk profiles in women presenting to our Center based on the 2024 Lancet Commission and 2. assess the efficacy of psychosocial interventions in establishing and maintaining behavioral change to reduce risk on year after intervention.

PATIENT CHARACTERISTICS

- 295 women ages 31-85 who completed intervention at our Center
- Patients tended to be highly educated with an average of 16.70 years (SD=1.97, Range=11-20).
- Patient population skewed non-Hispanic white (87.8%)

METHODS

- Presence or absence of **risk factors** as identified by the 2024 Lancet Commission were assessed via self-report.
- Statistical analyses.** Hierarchical linear modeling was used to determine change in cognitive and behavioral measures) at baseline assessment and follow-up approximately one-year later (see **Clinic Measures** for details)..

CLINIC MEASURES

Online Assessment	Cognitive Assessment
Mood - CES-D - Intolerance of Uncertainty Scale Sleep - RAND/MOS - STOP BANG Stress - Endorsement of current, regular stress - Perceived Discrimination Scale Cognitive Activity and Perception - Fear of Alzheimer's Disease Scale - Subjective Cognitive Decline Questionnaire - Memory Controllability Index - Dynamic Neurocognitive Adaptation scale Physical activity - Physical Activity Readiness Questionnaire - Self-Efficacy for Exercise Questionnaire Nutrition 14-item Mediterranean Diet Questionnaire - Starting the Conversation: Diet - In-house nutrition inventory	Global Cognition - MMSE Attention/Speed - NIH Toolbox: - Symbol Digit - Processing Speed Language - Boston Naming Test - Verbal semantic and phonemic fluency - NIH Toolbox: - Picture Vocabulary Memory - Rey Auditory Verbal Learning Test (RAVLT) - A4 Face/Name memory test Executive Function - Trail Making Test (Part B) - NIH Toolbox: - Flanker - Card Sort Mood and Stress - Beck Anxiety Inventory - Zarit Burden Inventory

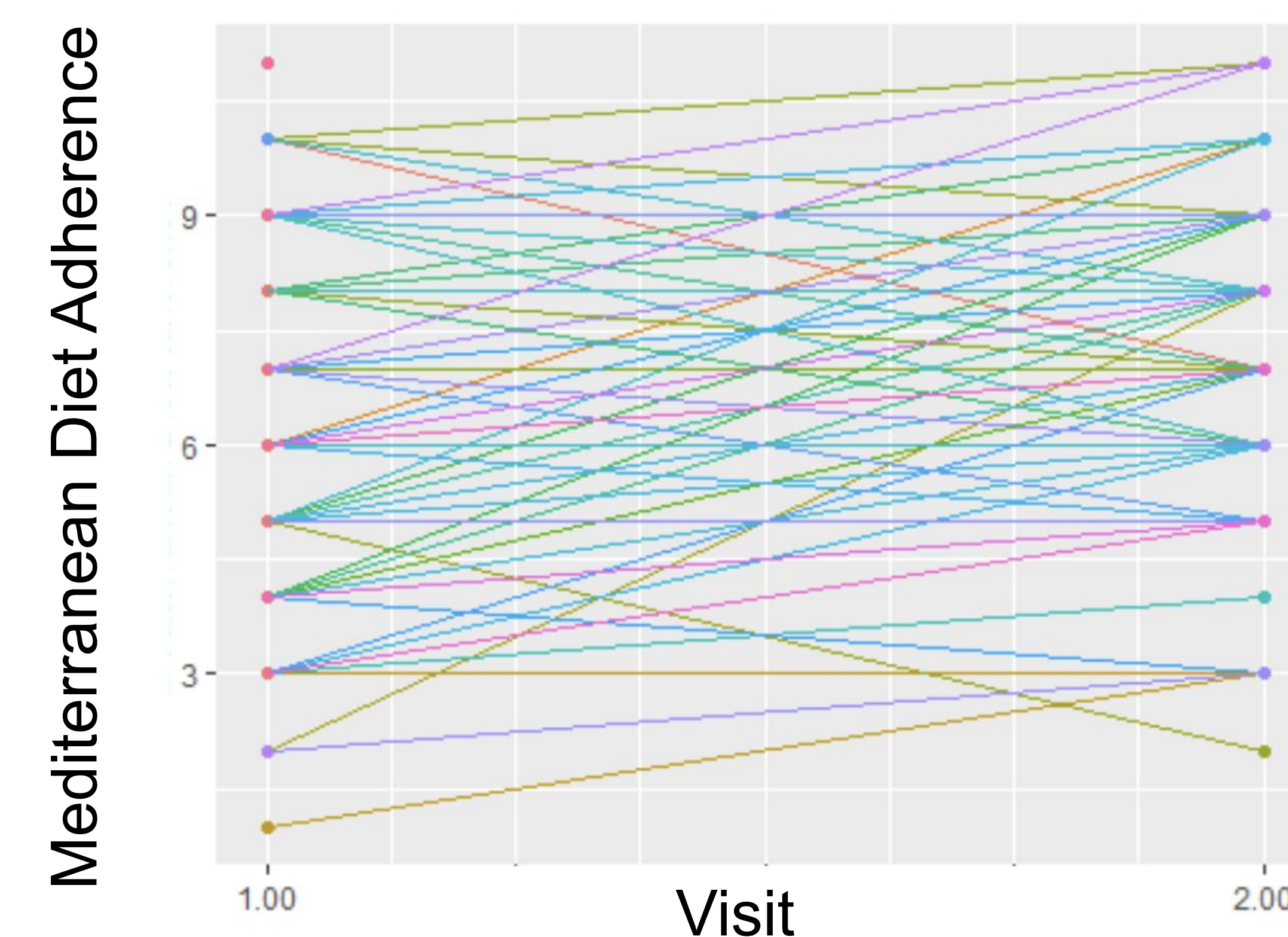
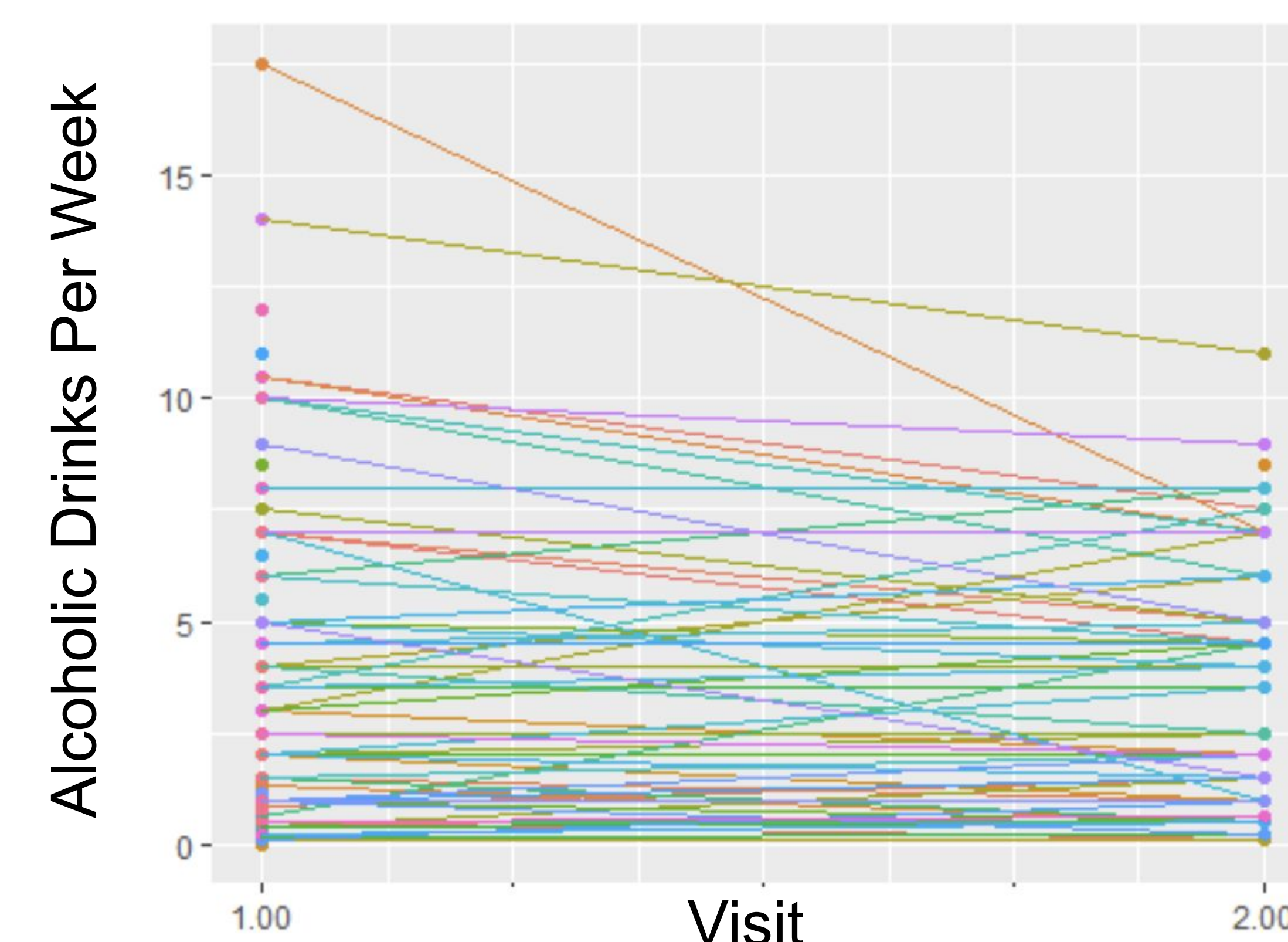
RISK PROFILE

Livingston Risk Factors	Yes	No	Percent Endorsed
Blood Pressure Problems	46	249	15.59
Cholesterol Problems	74	221	25.09
Diabetes	10	285	3.39
Obesity	64	230	21.77
Head injury	37	258	12.54
Physical Inactivity	41	254	13.90
Depression	115	180	38.98
Social Isolation	25	202	11.01
Hearing Loss	16	279	5.42
Vision Loss	32	263	10.85
Current Smoker	3	292	1.02
Education (< 11 years)	1	294	0.34

CONCLUSIONS

- Participation in our Center improves subjective appraisal of concurrent and future cognition.
- At follow-up, women reported greater adherence to the Mediterranean diet (p<.001) and drinking fewer alcoholic beverages weekly (p=.05).
- Our Center remains the only women-specific AD prevention clinic in the country. Results from our clinic provide support for the use of psychosocial intervention to spur behavioral change to reduce risk.

BEHAVIORAL CHANGE



COGNITIVE CHANGE

- One year after intervention, women reported fewer cognitive complaints and more positive attitude toward current and future cognition (Subjective Cognitive Decline Questionnaire p<.001; Memory Controllability Index subscales p<.011).

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