Background: Dementia in Indigenous peoples is expected to be an increasing challenge for health care systems at all levels. Our research team's previous work resulted in the development of evidence-based culturally grounded health promotion material for First Nations people in Canada. Our current project aims to understand the implications of Indigenous cultural diversity on the effectiveness of the materials. To do this we undertook a process of refinement of the materials from a national level focus to a regional focus with the goal of improving cultural relevance at the local level. **Methods:** Our approach was community-based and participatory. Working with the N'Swaakamok Native Friendship Centre, an Aboriginal advisory group was developed to guide the research. We conducted a qualitative study including 2 focus groups (n=8) with older adults aged 55 and over and 4 one-on-one interview sessions with caregivers of a person with Alzheimer's disease or age-related dementia. An iterative, thematic data analysis utilizing NVIVO 10 software to organize the data assisted in making meaning. Member checking through transcript reviews and a larger group session was completed to validate the thematic analysis. **Results:** A significant finding suggests that Aboriginal caregivers and older adults prefer developing a connection with an educated health care professional in order to receive dementia education. This can be done through face-to-face contact by means of family-centred group sessions. These sessions should be supplemented by dementia health promotion material that is organized into the Medicine Wheel. We draw upon the Seven Grandfather Teachings to exemplify how individuals can apply this knowledge in their lives. This research study resulted in two culturally relevant dementia health promotion fact sheets that are locally-specific for the Aboriginal peoples of the City of Greater Sudbury. Aboriginal people have contributed to evidence-based research and knowledge translation. **Conclusions:** Developing health promotion materials for Indigenous populations requires evidence-informed approaches. While it is desirable to have tools and resources that can be shared nationally, it is important that those tools leave room for local adaptation in order to improve uptake and effectiveness. Culturally-grounded tools hold the potential to improve dementia health literacy and increase cultural safety.

P3-407 EDUCATING PATIENTS AND CARE PARTNERS ABOUT MILD COGNITIVE IMPAIRMENT, APOE, AND ALZHEIMER'S DISEASE: FINDINGS FROM THE REVEAL STUDY

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Background: Biomarkers such as the *APOE* gene can be used in combination with other risk factors to predict rates of conversion from mild cognitive impairment (MCI) to Alzheimer's disease (AD). However, little is known about how best to educate patients and potential care partners about the implications of a MCI diagnosis for risk of progressing to AD. **Methods:** A multi-site clinical trial enrolled 110 dyads of patients with diagnoses of amnestic-MCI (mean age 74, range: 57-89; 49% female; 82% white) and their cognitively normal study partners (SP) (mean age 67, range: 22-93; 72% female; 82% white; 58% significant other). Dyads were randomized to receive an education and risk assessment intervention either with or without disclosure of *APOE* genotype. An 11-item measure assessing general knowledge of MCI and AD was administered to all participants at baseline, risk disclosure, and 6 weeks. The 73 dyads in the genotype disclosure arm were additionally administered a 4-item measure of knowledge of *APOE* and AD risk after disclosure. These measures included items from validated instruments and novel survey items customized for this educational intervention. **Results:** A comparison of knowledge scores demonstrated an improvement from baseline (MCI patient: 70%, SP: 77% correct) to risk disclosure (MCI patient: 83%, SP: 90% correct) and 6 weeks (MCI patient: 80%, SP: 85% correct). Following risk disclosure, the majority of MCI patients and SP correctly identified e4 as a risk allele (MCI patient: 77%, SP: 96% correct), understood the magnitude of its impact on AD risk (MCI patient: 78%, SP: 93% correct), and recognized that non-e4 carriers could still develop AD (MCI patient: 96%, SP: 95% correct). SP scored higher than MCI patients on both study knowledge measures across all time points ($p<.05$). **Conclusions:** Our findings confirm the efficacy of a novel intervention for educating patients and care partners about MCI diagnoses and the impact of *APOE* on risk for AD. Both MCI patients and SP showed good understanding of MCI and genetic risk information, and maintained educational gains over time. Evidence-based approaches to dementia education will be increasingly important as biomarkers are integrated into the treatment of MCI and pre-clinical AD.

P3-408 INVESTIGATIONS ON CLASSIFICATION ACCURACY AND EFFECTIVE MANAGEMENT OF STAGES OF DEMENTIA OF ALZHEIMER'S TYPE EMPLOYING MACHINE LEARNING AND DATA MINING METHODS

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Background: There has been a steady rise in the number of patients suffering from Alzheimer's disease (AD) all over the world. Medical diagnosis is an important but complicated task that should be performed accurately and efficiently and its automation would be very useful. **Methods:** The patient's records are collected from DIMHANS, India. The Sample consisted of initial visits of 1027 subjects seen either as control or as patients. Patients were concerned about their memory at DIMAHANS. It also consisted of patients and caregiver interviews. This research work presents different models for the classification of different stages of Alzheimer's disease using various machine learning methods such as Neural Networks, Multilayer Perceptron, Bagging, Decision tree, CANFIS and Genetic algorithms. **Results:** The classification accuracy for CANFIS was found to be 99.55% which was found to be better when compared to other classification methods. It was observed that Donepezil hydrochloride, Galantamine, Rivastigmine tartrate, Rivastigmine, Memantine are the most prescribed drugs for the treatment of Mild, Moderate and Severe Alzheimer's