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BIOMARKERS

POSTER PRESENTATION

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BIOMARKERS (NON-NEUROIMAGING)

Biomarker (Metabolic and Lipids) Determinants of Dementia in Older Adult Population from Nigeria: A Cross Sectional Analysis

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Abstract

Background: Dementia is determined by underlying biological processes. There is a paucity of studies from Nigeria concerning biomarkers in dementia. We present baseline data from longitudinal study on association of lipid and metabolic biomarkers on dementia.

Method: Three hundred older adults (65-89 years; mean age: 70.30; female: 202) without stroke participated were assessed using adapted Unified Data Set (UDS 3) neuropsychological test battery. Diagnoses was made using the Jack and Bondi (1961) method (normal cognition, borderline or severe impairment/dementia). Blood samples were used to analyze lipid (total cholesterol, triglycerides, HDL, LDL, and VLDL) and sugar. Hypertension, pulse and BMI were obtained in this cross sectional study. Partial correlations controlling for age, sex, education, and marital status were used to test for associations between biomarkers and cognitive status across entire sample. MANOVA was used to analyze differences in biomarker categories on UDS3 performance.

Result: There were no significant associations between dementia status and metabolic biomarkers (systolic BP, diastolic BP, diabetes, BMI and pulse), though diabetes and BMI showed small effect sizes (0.10).No significant association between lipids biomarkers (total cholesterol (TC), triglycerides (TG), HDL, LDL, VLDL) and dementia were found. Also, no significant associations were found between lipids and metabolic biomarkers on cognitive domains, except for HDL on visual spatial domain (-0.15).There were small effect sizes (0.10 to 0.12) for TC and HDL on attention and TG and VLDL on language. There were small effect sizes (between 0.15 to 0.18) for BMI on attention; systolic BP, diabetes and BMI on visual spatial; systolic BP, diabetes, BMI and pulse on processing speed, as well as pulse on language. No significant differences were seen on cognitive measures for those diagnosed with or without diabetes or hypertention. When comparing high/low HDL, significant differences were found only for language (0.57).

Conclusion: Our findings stand in contrast to prevailing western studies on the roles of metabolic syndrome and lipids on cognitive status. Though there are pockets of small effect sizes, there was little evidence for metabolic and lipid profiles as determinants of dementia and cognitive performance in older Nigerian adults.

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