OP-04

GLYCEMIC CONTROL AND COGNITIVE FUNCTION AFTER 50 YEARS OF TYPE 1 DIABETES

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INTRODUCTION
While cognitive dysfunction is well-studied in type 2 diabetes (T2D), research in type 1 diabetes (T1D) remains scant. In the Medalist Study at Joslin Diabetes Center ("Medalists"), individuals with ≥50 years of TID were previously shown to have impaired cognitive function, similar to those with T2D. However, the association of glycemic control with cognitive impairment has not been investigated.

METHODOLOGY
Medalists with no pre-existing CNS conditions or intake of medications affecting cognitive function were recruited for this cross-sectional study. They underwent the following tests: The Rey Auditory Verbal Learning Test assessing both immediate and delayed memory; the Wechsler Memory Scale III assessing working memory; the Delis-Kaplan Executive Function System assessing executive function; and the Grooved Pegboard Test assessing motor skills for both the dominant (DH) and non-dominant (NDH) hand. The association of glycemic control with cognitive function was evaluated using linear regression.

RESULTS
In the overall cohort (n=110), HbA1c was significantly associated with worse executive function even after adjusting for covariates (p=0.01). Medalists in the highest HbA1c tertile (7.5-9.2%) also trended (p=0.08) towards worse executive function as compared to Medalists in the middle (6.8-7.4%) and lowest (5.0-6.7%) tertiles. Furthermore, HbA1c was significantly associated with worse DH motor skills (p=0.047), and trended (p=0.09) towards association with worse immediate memory, among Medalists in the lowest tertile of disease duration (50-51 years).

CONCLUSION
Worse glycemic control was associated with cognitive dysfunction in the Medalists. Given the increasing life expectancy of individuals with T1D, a multidisciplinary approach is recommended to promote strategies that prevent cognitive decline.

KEY WORDS
cognitive dysfunction, type 1 diabetes, glycated hemoglobin A

OP-05

FREQUENCY AND DIVERSITY OF POTENTIAL GENETIC MAKERS OF NUTRITION-RELATED DISEASES GENERATED FROM THE NEXT GENERATION SEQUENCING (NGS) PANEL

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INTRODUCTION
The ubiquity of lifestyle diseases is a challenge in the contemporary health of Filipinos that requires solid and practical answers**.** To lessen the impact of non-communicable diseases (NCDs) on individuals and society, a comprehensive approach is needed, one that requires careful consideration of all the factors and risks associated with NCDs, as well as promote the interventions to prevent and control them. The study identified and profiled Single Nucleotide Polymorphisms (SNPs) associated with NCDs among adult Filipinos living in National Capital Region (NCR). The identification of SNPs will help in the assessment of likelihood of developing aforementioned diseases.

METHODOLOGY
Whole human blood samples from anonymized selected NCR participants were used for genomic deoxyribonucleic (DNA) extraction. Genomic DNA was isolated using the QIAamp DNA Blood Mini Kit. About 50 ng of anonymized DNA samples were sequenced using the Ion Torrent Proton (Life Technologies). Data were analyzed using the Ampliseq™ Variant Caller plug-in within the Ion Torrent Suite software (Invitrogen Life Technologies) and annotated using Ion Reporter software version 5.4.

RESULTS
The targeted sequencing of 502 published genes and SNPs associated with NCDs and other nutrition-related diseases was performed to a total of 1,160 samples. The identification of genes and SNPs underlying common non-communicable diseases and other nutrition-related diseases performed in the Filipino population has tremendously helped determined level of susceptibility of the population towards development of debilitating but preventable diseases such as T2DM, obesity, cardiovascular diseases, osteoporosis and micronutrient deficiency.