dataset from a national multisite research program (Environmental Influences on Child Health Outcomes (ECHO)) will be used. Neighborhood factors will be measured using geocoded, census-level indices of neighborhood quality: the Child Opportunity Index 3.0. Adolescent outcomes include self and caregiver-reported measures of comorbid psychopathology, risk-taking behavior, and academic and social functioning. A series of regression analyses will be conducted to examine the relationship between these variables. An estimated 6000 children are expected to be included in the analyses. RESULTS/ANTICIPATED RESULTS: We expect that poorer neighborhood conditions, particularly low social and economic resources, will be associated with lower overall functioning in adolescence, and that this relationship will be stronger among adolescents with ADHD relative to those without ADHD. DISCUSSION/SIGNIFICANCE OF IMPACT: By identifying risk and protective factors, this project will help identify potential prevention and treatment targets for a substantial number of youth and may inform policy efforts to improve resource equity and reduce existing disparities.

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Prevalence of tinnitus in Puerto Rican adults: A pilot study

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OBJECTIVES/GOALS: (1) Conduct a pilot study documenting prevalence of tinnitus in a sample of Puerto Rican adults at the Audiology Clinic of the Medical Sciences Campus-University of Puerto Rico, (2) categorize patterns of tinnitus, (3) document intervention received for tinnitus, and (4) study sociodemographic characteristics of Puerto Rican adult participants with tinnitus. METHODS/STUDY POPULATION: A descriptive retrospective study was performed reviewing 121 clinical records of patients seen at the Audiology Intramural Clinic of the Medical Sciences Campus of the Universidad de Puerto Rico between 2022 and 2023. They were analyzed to determine the prevalence of tinnitus among this cohort. The study was submitted to the Office of Human Participants for revision and approval under the exempt category. The data were used to categorize the type of tinnitus, episodic versus constant, tonal versus non-tonal and the sociodemographic description of the sample. RESULTS/ANTICIPATED RESULTS: From these 121 records, 70.2% (n = 85) were females and 29% (n = 29.8) were males. Subject ages ranged between 21 and 65 years. About 30% reported being single 30.6% (n = 37), followed by 21.5% (n = 26) reporting being married. From the 62 revised clinical records of subjects that reported tinnitus, 24% (n = 29) classified their tinnitus, in terms of how long they experience its presence, as constant, while 14% (n = 17) classified their tinnitus as intermittent. From the 62 revised clinical records, 44 participants (36.4%) described their tinnitus as tonal and 64.6 % as a complex sound of those patients 38 (31.4%) reported the tinnitus as a high-frequency pitch sound. Of the 62 patient records, the majority (98.4%) informed that they never received the treatment for tinnitus. DISCUSSION/SIGNIFICANCE OF IMPACT: The results indicate that more than half of adults evaluated in the UPR Audiology Intramural Clinic (51%) had tinnitus. Age range was broad developing at any age but most prevalent in middle-aged females. Manifested permanent as a tonal or a complex sound. About 98.4% informed that they never received treatment, therefore, there is a need to ensure intervention.

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Feasibility and efficacy of a 12-week whole foods diet Intervention to reduce hemoglobin A1c in adults with prediabetes and improve diet quality in families: Trial design and methodology

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OBJECTIVES/GOALS: We will conduct a 12-week pilot randomized controlled trial (RCT) to test the feasibility, acceptability, and preliminary efficacy of a staged-intensity whole foods intervention on hemoglobin A1c (HbA1c) change in adults, diet quality change (via the 2020 healthy eating index [HEI-2020]) in adults and offspring, and diet adherence and social determinants of health (SDOH) considerations via focus groups. METHODS/STUDY POPULATION: In this two-arm, parallel RCT, 30 adults with prediabetes (25–59 years) and their offspring (6–18 years) will be randomized to receive the 1) 12-week whole foods intervention which includes a 2-week feeding period (all foods/recipies provided), a 6-week customizable feeding period (3 dinners/recipies weekly), and a 4-week maintenance period (no food/recipies). The control group will receive standard of care (i.e., single RD-led diet counseling session). Primary outcomes include feasibility (≥80% retention and completion of study outcome measures) and acceptability (≥75% adult self-reported diet satisfaction). Intervention effects include 1) HbA1c change at 12-weeks in adults and 2) adult/offspring HEI-2020 scores assessed via diet records. Focus groups will assess influences of SDOH on diet adherence. RESULTS/ANTICIPATED RESULTS: We have received Institutional Review Board approval, and recruitment is planned for January 2025. We will enroll 30 families from the greater Nashville, TN area. An intent-to-treat analysis will be conducted to test the preliminary effects of the whole foods diet intervention on the 12-week change in HbA1c (adults only) and 2020-HEI diet quality scores during the intervention period (adults and offspring). Focus groups will be conducted to understand how individual and family needs/preferences and SDOH may be perceived barriers or facilitators of diet adherence. Data generated from this study will be used to guide a fully powered RCT of our whole foods intervention to assess long-term effects on additional diabetes and metabolic outcomes and assessment of SDOH influences to support long-term adherence. DISCUSSION/SIGNIFICANCE OF IMPACT: A healthy diet pattern is an effective nonpharmacological solution to prevent T2D,

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