cigarettes), native born, lack of insurance coverage, lack of adequate physical activity, northeast region (relative to west region), no known chronic diseases, and dissatisfactory care. The top 5 most significant predictors of a lack of FBS test in those without diabetes were, in order, 1) no visits to the doctor in the past 12 months (aOR [95% CI]; 5.64 [5.34, 5.96]), 2) insurance status (no coverage vs. coverage; 1.62 [1.54, 1.69]), 3) age group (Ref: ≥65y; 18-35y: 2.45 [2.34, 2.56]; 35-50y: 1.46 [1.40, 1.52]; 50-65y: 1.04 [1.01, 1.08]), 4) BMI group (Ref: Low/Normal; Overweight: 0.79 [0.77, 0.82]; Obese: 0.62 [0.60, 0.64]), and 5) race/ethnicity (Ref: Non-Hispanic White; Non-Hispanic Black: 1.03 [0.98, 1.07], Asian Indian: 0.65 [0.58, 0.74]; Other Asian: 0.91 [0.83, 1.00]; Hispanic/Multiracial: 0.91 [0.86, 0.96]). The top predictors for those with diabetes were similar, although there were significantly greater odds of a lack of FBS testing in Non-Hispanic Blacks vs. Whites (1.24 [1.14, 1.35]).
Conclusion: More than half of the participants reported a lack of FBS testing in the past year; among those with diabetes, nearly 1 in 6 reported not having an annual FBS test. This reaffirms the need for long-term patient-physician relationships and aggressive follow-up in younger, male, uninsured, and/or lean individuals with or without diabetes.

Diabetes Mellitus and Glucose Metabolism

TYPE 2 DIABETES

Racial/Ethnic Differences in Leisure-Time Physical Activity Among United States Adults With and Without Diabetes

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Background: Physical activity (PA) is a key lifestyle recommendation for diabetes mellitus (DM) prevention and management. The purpose of this study was to describe the patterns of leisure-time, aerobic & muscle-strengthening PAs across races/ethnicities and DM status.
Methods: We included 91,386 adults ≥18 years from the 2011–2018 National Health Interview Surveys who were able to participate in light-moderate PA. Aerobic PA was classified per 2008 guidelines as inactive (0 minutes/week [min/wk] of moderate or vigorous activity), insufficiently active (0–150 moderate-equivalent min/wk, defined as sum of moderate-level and 2*vigorous-level PA), sufficiently active (150–300 moderate-equivalent min/wk), and highly active (>300 min/wk of moderate-level PA, >150 min/wk of vigorous-level PA, or >300 moderate-equivalent min/wk). We also classified aerobic PA continuously in terms of metabolic equivalents (METs; 4 METs for moderate and 8 METs for vigorous PA). Muscle-strengthening PA was dichotomized into ≥3 times/wk (adequate) and <3 times/wk (inadequate). Race/ethnicity was categorized as non-Hispanic White (NHW), non-Hispanic Black (NHB), Asian Indian (AI), Other Asian (OA), and Hispanic/Other (H/O). We used self-reported DM-stratified multivariable logistic and linear regression to assess racial/ethnic differences in PA. All analyses accounted for the survey design and weights to obtain nationally representative estimates.
Results: Among the 91,386 participants, 45,676 (53%) were male, 11,835 (10%) were ≥65 years, and 5,106 (5.2%) had DM. Asian groups had lower adequate muscle-strengthening PA than others (%[SE]: NHW, 35[0.3]%; NHB, 35[0.7]%; AI, 27[1.6]%; OA, 30[1.3]%; H/O, 34[0.8]%; p<0.0001). AIs also had a lower proportion of 'highly active' individuals (%[SE]: NHW, 67[0.2]%; NHB, 65[0.7]%; AI, 57[1.8]%; OA, 61[1.5]%; H/O, 67[0.8]%; p<0.0001). Non-DM AIs had mean (SE) 622 (133) lower METs than NHWs (covariate adjusted mean METs [SE]: NHW, 3,568 [305]; NHB, 3,873 [309]; AI, 2,946 [333]; OA, 3,107 [321]; H/O, 3,736 [325]; p<0.001). This difference was also present in those with DM (adjusted mean METs [SE]: NHW, 2,231 [314]; NHB, 2,231 [379]; AI, 1,366 [456]; OA, 1,847 [495]; H/O, 2,454 [401]; p=0.013). Non-DM AIs and OAs had ~30% lower odds of being at least 'sufficiently active' relative to NHWs (aOR [95% CI]: AI, 0.70 [0.56, 0.87]; OA, 0.72 [0.61, 0.85]). All races/ethnicities had lower odds of adequate muscle-strengthening PA compared to NHWs (aOR [95% CI]: NHB, 0.94 [0.90, 0.99]; AI, 0.68 [0.60, 0.79]; OA, 0.75 [0.68, 0.84]; H/O, 0.73 [0.69, 0.77]). These inverse associations persisted in DM-diagnosed OAs, but not AIs.
Conclusion: Among those with and without DM, there exist racial/ethnic differences in strength-related and aerobic activities. Asian groups may benefit from aggressive counseling and PA interventions to both prevent and manage DM.

Diabetes Mellitus and Glucose Metabolism

TYPE 2 DIABETES

Response to Twin Enabled Precision Treatment for Reversing Diabetes: An Initial Analysis at 4 Weeks of the Ongoing Randomised Controlled Trial

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Introduction: Technology enabled precision nutrition, a combination of macro, micro and biota nutrients, along with Continuous Glucose Monitoring (CGM) have been demonstrated to be a key for reversal of diabetes.
Methods: We conducted an initial analysis (n=23) of the ongoing randomized controlled trial of Twin Precision Treatment (TPT): a novel whole-body digital twin enabled precision treatment for reversing diabetes. The clinical and the biochemical parameters were evaluated as the longitudinal follow up at the first follow up visit at 4 weeks. The target sample size is 300 with an estimated duration of 5 years. Descriptive statistics were used
Results: 8/23 (35%) patients achieved the intended outcome of reversal of HbA1c and off any anti-diabetic medications. There was a statistically significant improvement in HbA1c % (8.5 ± 1.6 to 6.8 ± 0.66; p<0.0001), Fasting Blood Glucose mg/dL (FBS) (151 ± 44 to 98 ± 18; p<0.0001), HOMA2-IR (1.7 ± 0.64 to 1 ± 0.45; p=0.0001), HOMA2-Beta (53 ± 28 to 86 ± 38; p=0.0013), Systolic BP (129 ± 11 to 120 ± 11; p=0.008) and serum albumin g/dL (4.5 ± 0.21 to 4.2 ± 0.31;