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Background

Type 2 diabetes (T2DM) accounts for 90% of the 38.4 million people living with diabetes in the US, creating major health and economic burdens. Individuals of lower socioeconomic status often face more barriers to care, yet few studies have directly investigated an association between income level and prevalence of T2DM, independent of its complications or comorbidities.

Objective

The objective of the study was to explore the association between income level and the prevalence of type 2 diabetes among US adults aged 18 years and older.

Methods

Study Design and Population

This analytical, cross-sectional study used data from the 2023 Behavioral Risk Factor Surveillance System (BRFSS). People with type 2 diabetes were included. Those with prediabetes were excluded.

Variables

The main outcome variable was a self-reported diagnosis of type 2 diabetes, and the main exposure variable was income level. Covariates such as age, sex, race/ethnicity, and education were included.

Statistical Analysis

Unadjusted and adjusted odds ratio (OR) with 95% confidence intervals (CI) were calculated.

Results

Table 1. Participant Demographics

		N	%
Age	18-24	14,536	5.3
	25-34	29,588	10.9
	35-44	37,257	13.7
	45-54	39,339	14.4
	55-64	50,330	18.5
	65+	101,512	37.2
Sex	Female	136,978	50.3
Race/Ethnicity	White, non-Hispanic	206,846	75.9
	Black, non-Hispanic	19,439	7.1
	Other, non-Hispanic	14,795	5.4
	Multiracial, non-Hispanic	6,678	2.5
	Hispanic	24,804	9.1
BMI	Underweight	4,228	1.6
	Normal weight	79,383	29.1
	Overweight	97,912	35.9
	Obese	91,039	33.4
Diabetes	Yes	37,079	13.6
Income	<50k	102,681	37.7
	50-99k	85,180	31.3
	100k or more	84,701	31.1
Education	Did not graduate high school	12,652	4.6
	Graduated high school	63,054	23.1
	Attended college	72,296	26.5
	Graduate college or technical school	124,560	45.7
Smoking Status	Yes	30,885	11.3
Physical Activity	Meet both guidelines	84,021	30.8
	Meet only aerobic guidelines	88,963	32.6
	Meet strength only	30,240	11.1
	Did not meet guidelines	69,338	25.4

Forest Plot of Odds Ratios for Leisure Physical Activity Time based on Sociodemographic Variables

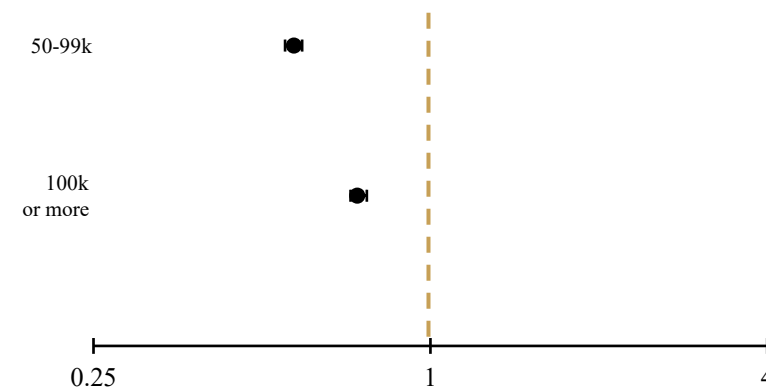


Figure 1. Forest plot showing odds ratios for Type 2 Diabetes diagnosis based on Income. Points indicate odds ratios, horizontal lines indicate 95% confidence intervals. The vertical line represents an odds ratio of 1 (no association).

Conclusions

- Income: Prevalence of T2DM decreased as income level increased
- Education: Prevalence of T2DM was lower in higher education groups compared to the reference group (did not graduate high school)
- Physical Activity: Higher-income groups were more likely to meet physical activity guidelines
- Ethnicity: Prevalence of self-reported T2DM was higher across all ethnic groups compared to the reference group (white).