

Obesity and Diabetes: A Populational Analysis of Data in São Paulo City

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Introduction

Obesity and diabetes mellitus (DM) are two prevalent non-communicable diseases affecting millions globally. Obesity is a significant risk factor for type 2 DM. Understanding the relationship between obesity and DM is crucial for effective prevention and management strategies.

Methodology, Results, and Discussion

Demographic and clinical data were collected from 1475 individuals participating in health campaigns in São Paulo. The average age of participants was 47.7 years, with females comprising 38.1%. The average weight was 76.3kg, mean waist circumference (WC) was 94.8cm, and mean Body Mass Index (BMI) was 30.4kg/m². The mean blood glucose (BG) level was 102mg/dL. Among participants, 18% had previously altered BG measurements, 54% reported regular physical activity, and 33% used medications for blood pressure management. Of the individuals, 37.3% had a BMI between 24.9 and 29.9, and 38.3% had a BMI higher than 29.9, indicating that 75.6% had weight excess. Table 1 present detailed results.



Correlation analyses assessed the relationship between various parameters and the presence of DM. Significant correlations ($p < 0.05$) were observed between WC and DM, but the correlation between BMI and DM was not statistically significant. These findings suggest that abdominal obesity may have a more pronounced impact on DM risk compared to overall body weight. A logistic regression model indicated that systemic arterial hypertension (SAH) and female gender were significant risk factors for DM in this population.

These results highlight the importance of addressing obesity and associated conditions, such as SAH, in DM prevention and management. Public health interventions promoting healthy lifestyle behaviors, including regular physical activity, balanced nutrition, and weight management, are essential for reducing the burden of DM in urban populations. Screening campaigns can help identify individuals at higher risk of developing DM, facilitating intervention and treatment.

Conclusion

This study provides valuable insights into the relationship between obesity and DM in São Paulo. By elucidating the role of abdominal obesity and SAH as significant risk factors for diabetes, it underscores the importance of comprehensive approaches to DM prevention and management. Continued efforts in research, education, and public health initiatives are essential for addressing the growing burden of DM and improving health outcomes for individuals affected by this condition.

Variable	Mean	Standard Deviation
Age (years)	47.77	15.66
Sex Prevalence (female)	38.14%	-
Height (meters)	1.62	0.10
Weight (kilograms)	76.37	17.31
Abdominal Circumference (cm)	94.81	16.46
BMI (kg/m ²)	30.46	34.80
Blood Glucose (mg/dl)	102.26	32.14
Overweight Prevalence	37.33%	-
Obesity Prevalence	38.31%	-
Hypertension Prevalence	33.04%	-
Diabetes Prevalence	18.08%	-
Physical Activity Prevalence	54.32%	-

(Table 1. Detailed results from health campaign)

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