HIGHER SERUM LEVELS OF VITAMIN D ARE ASSOCIATED WITH LOWER BLOOD GLUCOSE LEVELS

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Problem statement: Despite Vitamin D important role in bone metabolism, evidences suggest that higher serum levels of 25(OH)D might be associated with a lower risk of developing type 2 diabetes mellitus, possibly by providing better glycemic control. The objective of the present study was to evaluate the possible association between 25(OH)D sufficiency and glycemia.

Methods: This was a cross-sectional study in Brazil, involving **681** women aged 35 to 74 years, selected through systematic sampling applied to a sampling frame comprising 7,212 women enrolled in a Family Health Program. The study was approved by the Research Ethics Committee of the University of São Paulo School of Public Health. All participants gave written consent.

Participant were interviewed and had fasting blood samples collected on scheduled dates. Data were stored in a Microsoft Access 2003 database and were analyzed with the Stata statistical software package, version 11.0 (StataCorp LP, College Station, TX). Total 25(OH)D was categorized as ≥ 30 ng/mL versus < 30 ng/mL, and as ≥ 20 ng/mL versus < 20 ng/mL. Blood glucose levels were categorized as < 100 mg/dL versus ≥ 100 mg/dL.

Results: The mean fasting blood glucose and 25(OH)D levels was 105 mg/dL (range, 26-401 mg/dL) and 26.4 ng/mL (range, 5.8-55.9 ng/mL), respectively. The prevalence of a serum 25(OH)D level < 20 ng/mL was 26.6% (95% CI 23.3%-29.9%) and that of a serum 25(OH)D level < 30 ng/mL was 65.4% (95% CI 61.6%-68.7%).

A serum 25(OH)D level ≥ 30 ng/mL was found to be negatively associated to blood glucose level ≥ 100 mg/dL (OR = 0.62; 95% CI, 0.44-0.85), as was a serum 25(OH)D level ≥ 20 ng/mL (OR=0.68, 95% CI, 0.48-0.95). In the multivariate Poisson analysis, considering body mass index, age, and systolic blood pressure, a blood glucose level ≥ 100 mg/dL maintained its associations with serum 25(OH)D levels < 20 ng/mL and < 30 ng/mL (Table 1).

Conclusions: In the present study, higher serum 25(OH)D concentrations was associated with blood glucose levels lower than 100mg/dL.

Disclosure of Interest: In Brazil, it was found a positive association between lower vitamin D concentrations and glucose levels higher than 100mg/dL.

Variable	Serum 25(OH)D level					
	≥ 20 ng/mL			≥ 30 ng/mL		
	OR	P	95% CI	OR	P	95% CI
Glycemia ≥ 100 mg/dL	0.90	0.031	0.81-0.99*	0.75	0.017	0.60-0.95*
BMI ≥ 30 kg/m ²	1.03	0.471	0.94-1.14	0.91	0.413	0.73-1.14
Age ≥ 60 years	1.06	0.213	0.96-1.19	0.95	0.679	0.73-1.23