



## **TITLE: Insulin resistance by the triglyceride-glucose (TyG) index in a rural Brazilian population**

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### **ABSTRACT**

The TyG index was created in 2008 as a less costly and invasive alternative to determine the insulin resistance of an individual, being a viable option as a screening tool for individuals at higher health risk, especially those with difficult access to services health, such as rural, peripheral and indigenous populations. In this context, researchers have recently elaborated a cutoff point using a rural Brazilian population. The present study is the first in Brazil using this methodology and aims to estimate the prevalence of insulin resistance through the TyG index and its association with sociodemographic, occupational, lifestyle and health indicators in a rural Brazilian population. This is a cross-sectional study with 790 farmers in the state of Espírito Santo/Brazil. TyG was calculated and a cut-off point of Ln 4.52 was used. A hierarchical logistic regression for the association of insulin resistance with sociodemographic, labor, lifestyle and health variables of farmers living in Espírito Santo was performed. The prevalence of insulin resistance was 33.7% (n=266), and the association with insulin resistance was found in the age group 31 to 40 years of age (OR=1.85; 95%CI 1.19-2.87); in smokers or former smokers (OR=1.63; 95%CI 1.08-2.48) and overweight (OR=3.06; 95%CI 2.22-4.23).

The prevalence of insulin resistance was high in a rural population of Brazil, and was mainly associated with age, smoking and obesity. The use of TyG as an instrument for assessing the health of individuals living in areas where access to health services is difficult, such as rural areas, can represent an important advance in terms of health promotion, protection and recovery. In addition, by identifying the risk factors associated with IR, as well as their consequences, a more adequate scheme for the prevention and treatment of these comorbidities can be defined.

### **BIOGRAPHY**

Nutritionist from the Federal University of Ouro Preto, PhD in Physiological Sciences (PPGCF-UFES) and Master in Public Health (PPGSC-UFES). She is currently a postdoctoral fellow in Epidemiology at the Faculty of Public Health at USP, is an Associate Professor at the Federal University of Espírito Santo, a permanent lecturer at the Postgraduate Program in Collective Health - PPGSC and a permanent lecturer at the Postgraduate Program in Nutrition and Health. - PPGNS, in which she was Coordinator from 2019 to 2021.

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