

Triglyceride-glucose (TyG) is Positively Associated with

Nonalcoholic Fatty Liver Disease

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INTRODUCTION

Triglyceride-glucose (TyG) index may be a useful and affordable indicator of insulin resistance in the general population. Insulin resistance is strongly associated with nonalcoholic fatty liver disease (NAFLD).

OBJECTIVE

This study aims to evaluate the association between TyG index and NAFLD.

METHODS

A systematic review was conducted following the PRISMA guidelines. Papers were selected searching PubMed/Medline, SciELO, and LILACS databases in July 2021 using the terms (TyG index OR Triglyceride-glucose index) AND (NAFLD OR nonalcoholic fatty liver disease). The inclusion criterion was limited to observational studies that evaluated the association between TyG index and NAFLD. There were no language or publication date restrictions.

RESULTS

Among the 42 papers initially identified, 21 were eligible for this review after full texts were read. TyG index was positively associated with prevalence, incidence, and worse outcomes of NAFLD in the majority of studies. Only one study stated that TyG index did not perform well in the diagnosis of steatosis and NASH. The studies suggest that TyG index can be superior than fatty liver index, HOMA-IR, AST, and ALT for predicting NAFLD. However, TyG-WC and TyG-BMI can perform even better than TyG index. Most ROC curves analyses showed a TyG index cut-off value of approximately 8.5 to predict NAFLD. In addition, TyG index was linked to more severe steatosis and the presence of fibrosis in NAFLD.

CONCLUSION

TyG index was positively associated with NAFLD. TyG index can be a simple, practical, and affordable tool for identifying individuals at risk of NAFLD.