Review of: "Causality Analysis for Non-Communicable Diseases, Obesity, and Health Expenditure: Toda Yamamoto Approach"

Kevser Karlı[1]

1 Kastamonu University

Potential competing interests: No potential competing interests to declare.

This article provides a comprehensive and detailed analysis of the causal relationships between obesity, the burden of non-communicable diseases (NCDs), and health expenditures. The study uses a robust methodological approach employing the Toda and Yamamoto causality model which is suitable for non-stationary time series data, thereby ensuring reliable and robust results. It also utilizes significant data from credible sources like the World Health Organization and the World Bank, enhancing the reliability of its findings.

Importantly, the study addresses a crucial public health issue: the link between obesity and the increasing prevalence of NCDs, and its resultant impact on health care costs. It takes into account the BMI metrics for defining obesity and DALYs for measuring the disease burden, which are both globally accepted standards, adding further credibility to the study.

The study presents strong empirical evidence supporting the causal relationships between obesity, NCDs, and health expenditures. The findings confirm the widely held view that obesity is a significant determinant of both the burden of NCDs and healthcare costs. However, it interestingly notes that NCDs alone do not seem to be a significant cause of health expenditures, suggesting other factors may also play a critical role. Despite its strengths, the article does not discuss some potentially relevant factors that may affect the causality model, such as socio-economic status, lifestyle behaviors, and health policies in different countries. Furthermore, the article does not provide insights into specific types of NCDs that are most affected by obesity. It would be useful to disaggregate NCDs into specific conditions like cardiovascular diseases, diabetes, etc., to provide a more nuanced understanding of the relationships. Additionally, the article could provide more insight into the geographical or demographic scope of the data used. The title and methods suggest a global focus, but regional or country-specific data may yield different insights given the vast disparities in obesity, NCD prevalence, and health expenditure across regions and countries.

In summary, this article is a commendable effort towards understanding the complex relationships between obesity, NCDs, and health expenditures using a robust econometric model. The findings could inform policy and interventions aimed at obesity reduction, thereby reducing NCDs prevalence and healthcare costs. However, further research into the factors influencing these relationships and exploring disease-specific and geographically nuanced insights would strengthen our understanding of this complex issue.

As a dietitian and academic, I believe it's necessary and important to increase studies that utilize such econometric

models and investigate causality. I am of the opinion that future research can be improved by addressing the identified limitations, such as incorporating socio-economic factors and providing a more detailed breakdown of NCDs. Based on all of this, I am in favor of the study being accepted.