

**LETTER TO THE EDITOR**

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<https://doi.org/10.5281/zenodo.14510847>**Potential Causes for Differences Between Regions in Coronary Artery Diseases in Turkey**

Türkiye'de Koroner Arter Hastalıklarında Bölgeler Arası Farklılıkların Potansiyel Nedenleri

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Dear Editor,

The regional differences in the rates of fatalities caused by coronary artery diseases in Turkey cannot be attributed simply to genetic or medical causes. A variety of social, economic, cultural, and environmental variables contribute to these disparities. This circumstance provides an important opportunity to better understand the causes of regional disparities in heart attack rates and to devise a more effective strategy for tackling the issue.

**Level of physical activity;** Physical activity is another key component that demonstrates regional variances. Individuals who live in metropolitan areas tend to be more active and spend more time at amenities like gyms and walking pathways. Physical activities are limited in rural locations, particularly for those working in agriculture and construction. Sedentary lifestyles significantly raise the risk of heart disease (1). Healthy living facilities such as gyms and walking trails in big cities are rarely present in rural locations, making it difficult to build an environment that promotes physical exercise.

**Eating habits and lifestyle;** Eating habits are one of the most important variables influencing heart health. People's eating habits vary across Turkey, depending on cultural customs and local items. The Mediterranean diet, which is popular in the Marmara, Aegean, and Mediterranean regions, contains heart-healthy fats, fish, vegetables, and fruits, resulting in a decreased incidence of heart disease in these areas. In Eastern and Southeastern Anatolia, however, a diet high in meat and carbs raises the risk of heart attack (2). The frequency of cardiovascular disease is increasing, particularly in places with high meat consumption, high saturated fat levels, and poor vegetable and fruit consumption.

**The Status of Regional Health Infrastructure;** Inadequate regional health infrastructure contributes significantly to the development and treatment of heart disease. Healthcare services are more limited in rural locations, making it more difficult to see a specialist. The lack of early diagnosis, treatment, and follow-up processes causes heart disease to worsen and eventually kills. Inability to get healthcare services in a timely manner is another factor that contributes to higher mortality rates, particularly in emergency situations (3).

**Socioeconomic Status and Healthcare Access;** Socioeconomic position has a considerable impact on cardiovascular disease. Low-income neighborhoods frequently have limited access to healthcare services, increasing the risk of heart disease(4). Low-income persons' poor food habits, high smoking rates, stressful living situations, and a lack of health education all contribute to heart disease risk. In rural locations with limited access to healthcare services, early detection and treatment of emergencies such as heart attacks are frequently delayed, increasing death rates.

**Air pollution and the environment;** Environmental variables' effects on heart health are likewise becoming more and more significant. Heart disease is negatively impacted by air pollution, particularly in big cities. In addition to causing respiratory disorders, air pollution also sets the stage for the emergence of cardiovascular disorders. Because of its high levels of manufacturing and transportation,

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the Marmara Region is particularly polluted. On the other hand, heart disease rates are typically lower in rural locations with cleaner air (5).

**Regional Variations and Genetic Factors;** Due to its ethnically diverse population, Turkey may have regional differences in genetic susceptibilities to specific heart conditions. For instance, it is well recognized that risk factors for heart disease, like diabetes and hypertension, are more common in specific areas (6). The prevalence rates of diseases can be impacted by these genetic variations in conjunction with lifestyle choices.

In conclusion, It is impossible to attribute Turkey's geographical variations in coronary artery diseases rates to purely biological or genetic causes. The geographical variations in cardiac disorders can be better understood when lifestyle, genetic predispositions, healthcare infrastructure, socioeconomic level, nutrition practices, and environmental factors are all taken into consideration. In light of these complex factors, new all-encompassing and regional approaches to heart disease prevention should be created. The solution to this problem will mostly depend on policies that consider regional variations, increase public knowledge of healthy living practices, and provide healthcare services in an equitable manner.

## DESCRIPTIONS

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