

## Sleep insufficiency and incidence of cardiovascular disease among adults in Greece

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**Introduction:** Sleep disorders are an increasing and modifiable risk factor for cardiovascular disease (CVD).

**Purpose:** The aim of our study was to investigate potential associations between sleep insufficiency and incident CVD.

**Methods:** In this cross-sectional study, 957 participants, (mean age  $49.62 \pm 14.79$ ) from the region of Thrace, Greece were enrolled and classified into three groups [short (<6 h), normal (6-8 h) and long (>8 h) sleep duration]. CVD was assessed by a positive response to the following questions: "Have you been told by a doctor that you have had a heart attack or angina (chest pain or exertion that is relieved by medication)?" or "Have you been told by a doctor that you have had a stroke?". Participants' sleep quality was estimated with the Epworth Sleepiness Scale, Athens Insomnia Scale, Pittsburgh Sleep Quality Index, and Berlin Questionnaire.

**Results:** The overall prevalence of CVD was 9.5%. The population with CVD exhibited reduced sleep duration and efficiency reduced by 33 min and 10%, respectively. After adjusting for all possible cofounders, short sleep duration was 3.07-times more frequent in patients with CVD and sleep duration of less than 5:33 hours could be a potential risk factor for CVD, especially among females. Additionally, CVD was significantly associated with excessive increased daytime sleepiness, insomnia, poor sleep quality and increased risk of obstructive sleep apnea.

**Conclusion(s):** Our study depicts a strong correlation of sleep insufficiency with CVD and promotes early pharmacological or cognitive behavioral interventions in order to protect cardiovascular health.

Abstract Figure. Results

