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Regular cellphone use can increase risk of cardiovascular disease

Researchers find this is especially true for smokers and people with diabetes

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Using a mobile phone regularly can greatly raise the risk of cardiovascular diseases, particularly in current smokers and diabetics, a new study shows.



The findings, published Wednesday in the *Canadian Journal of Cardiology*, also revealed that the impact of regular cellphone use on poor sleep and mental health plays a role in this increased risk.

In a modern-day era marked by the proliferation of mobile phones, universal use has major implications for the development of disease and can affect public health efforts, researchers said.

Cellphones emit radiofrequency electromagnetic fields that can disrupt a complex system of organs, such as the heart and blood vessels, that work in tandem to regulate the body's stress response, the study's corresponding author, Dr. Xianhui Qin, told UPI via email.

"The current study encourages measures to decrease the time spent on mobile phones for promoting the primary prevention of cardiovascular disease events," said Qin, a professor in the division of nephrology at Nanfang Hospital of Southern Medical University in Guangzhou, China.

"Additionally, for regular mobile phone users, improving sleep and mental health status may help reduce the higher risk of cardiovascular disease associated with phone use," he said.

The study's authors wrote that "cardiovascular diseases are major causes and contributors to mortality and disability worldwide," noting that the global prevalence nearly doubled from 271 million people to 523 million from 1990 to 2019. Meanwhile, they added that "the number of mobile phone subscriptions has increased dramatically worldwide in recent decades and surpassed 8.2 billion in 2020."

Yet, they noted out that only a few other studies have examined the connection between mobile phone use and the risk of cardiovascular diseases. In this study, researchers analyzed data from 444,027 individuals in the UK Biobank who did not have a history of cardi-

ovascular disease and who divulged information about the frequency of their mobile phone use from 2006 to 2010. They defined regular mobile phone use as at least one call per week. The UK Biobank is a large-scale study that recruited more than a half-million people between ages 37 and 73 years at 22 assessment centers across England, Wales and Scotland from 2006 to 2010.

At the time of enrollment, participants completed touchscreen questionnaires, face-to-face interviews and physical measurements, while providing blood samples for laboratory and genetic analyses.

Tapping into hospital and mortality records, researchers were able to follow individuals for a median of 12.3 years. They also investigated the role of sleep patterns, psychological distress and neuroticism.

Among regular mobile phone users, longer weekly use correlated considerably with increased risk of a new diagnosis of cardiovascular disease and each component of it, including coronary heart disease, stroke, heart failure and atrial fibrillation.

Sleep patterns, psychologic distress, and neuroticism significantly mediated 2.25 percent to 11.50 percent of the association between weekly mobile phone usage time and cardiovascular disease.

In addition, researchers found a link between regular mobile phone use and a longer weekly mobile phone usage time with a higher risk of an increased score on the carotid intima-media thickness test, a quick and painless ultrasound scan of the wall in the carotid arteries — a pair of important blood vessels in the neck that supply blood to the brain. Plaque buildup can cause the wall's inner layers to grow thicker over time, and increasing thickness may indicate a heightened risk for cardiovascular disease.

The study's authors said this suggests that mobile phone use plays a role in vascular damage — one of the mechanisms by which it affects the risk of cardiovascular disease.

An editorial that accompanied the study credited the authors with aiming to evaluate the association between mobile phone use and cardiovascular disease, while seeking to identify interventions.

“This study offers early evidence that using mobile phones may be linked to an increased risk of heart disease, possibly due to factors like poor sleep and stress,” the editorial's lead author, Nicholas Grubic, a doctoral student in epidemiology in the Dalla Lana School of Public Health at the University of Toronto, told UPI via email.

“While the cardiovascular risks of mobile phone use should not be of immediate concern to the general public, it is important to focus on building heart-healthy habits surrounding usage time, such as avoiding phone use before bed and taking regular breaks during the day to exercise, eat nutritious food or spend time outdoors.”