

One in ten cardiac arrest patients phoned emergency services the day before

27 August 2021



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Difficulty breathing is the most common symptom before cardiac arrest, according to research presented at ESC Congress 2021.

"Breathing problems more frequently preceded cardiac arrest than [chest pain](#)," said study author Mr. Filip Gnesin, a research scholar at North Zealand Hospital, Hillerød, Denmark. "Since difficulty breathing is also a sign of other health conditions, we hope our findings will stimulate further research to help emergency medical dispatchers distinguish between symptoms of a pre-arrest condition versus other medical issues."

There is limited knowledge on whether there are warning signs for out-of-hospital cardiac arrest. Information on warning signs and early symptoms would enable [medical professionals](#) to assess whether a patient is at risk of developing a cardiac arrest and potentially prevent it.

This study examined symptoms reported by patients with out-of-hospital cardiac arrest contacting emergency medical services within 24 hours prior to the arrest.

The researchers identified patients from the Danish Cardiac Arrest Registry who experienced an out-of-hospital cardiac arrest from 2016 through 2018 and had phoned the Copenhagen Emergency Medical Services up to 24 hours before their arrest. The researchers systematically evaluated these pre-arrest calls and noted symptoms reported by the caller, who could be the patient or a bystander. Finally, these patients were linked to nationwide databases to collect other data such as survival.

Of 4,071 patients with out-of-hospital cardiac arrest, 481 (11.8%) had pre-arrest calls. The median age of patients with pre-arrest calls was 74 years and 59.9% were men. The most commonly reported symptoms were breathing problems (59.4%), confusion (23.0%), unconsciousness (20.2%), chest pain (19.5%) and paleness (19.1%).

An urgent medical response was dispatched in 68.7% of calls reporting breathing problems compared to 83.0% reporting chest pain. Regarding survival, 81% of patients reporting breathing difficulty in a pre-arrest call died within 30 days compared to 47% of those reporting chest pain.

Mr. Gnesin said: "More than 10% of patients experiencing an out-of-hospital cardiac arrest had a phone call to the emergency [medical services](#) up to 24 hours before their arrest either made by themselves or a bystander. Breathing difficulty was the most common complaint and much more common than chest pain. Despite this, compared to [chest pain](#), patients with breathing issues were less likely to receive emergency medical help and more likely to die within 30 days after the arrest. These findings indicate that breathing problems are an underrated warning sign of cardiac arrest."

He added: "Although our study shows that some patients with cardiac arrest present characteristic pre-arrest symptoms, these symptoms are not unique to this patient population. We hope that creating awareness of [breathing](#) problems as a

common early [symptom](#) of cardiac [arrest](#) will contribute, together with more research, to identifying more characteristics specific to [cardiac arrest](#) so that it can be predicted and possibly prevented in the future."

More information: 1 Abstract title: Symptoms reported in calls to emergency medical services 24 hours prior to out-of-hospital cardiac arrest.

Provided by European Society of Cardiology

APA citation: One in ten cardiac arrest patients phoned emergency services the day before (2021, August 27) retrieved 29 November 2021 from <https://medicalxpress.com/news/2021-08-ten-cardiac-patients-emergency-day.html>

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