

Weekend heart attacks twice as likely to kill young patients

4 March 2018

Young heart attack patients are twice as likely to die if they are admitted to hospital during the weekend compared to a weekday, according to an Italian study in more than 80,000 patients presented today at Acute Cardiovascular Care 2018.¹

"Excess deaths at weekends were reported for heart attack patients a decade ago² and we wanted to see if the situation had improved," said lead author Dr Giovanni Malanchini, resident in cardiology at the University of Milan, Italy, under the supervision of Professor Federico Lombardi. "We also looked at whether there were differences by age or sex."

The study included all 80,391 patients with an acute coronary syndrome³ admitted to a hospital in the Lombardy region of Italy for less than 20 days between January 2010 and December 2014. Age and sex data were collected from discharge charts. The primary outcome of interest was in-hospital mortality.

Patients, on average, were 67 years old, and 70% were men. A total of 2,455 patients (3%) died while in hospital.

When all patients were analysed, the researchers found a 13% higher [risk](#) of death in those admitted at weekends compared to weekdays.

Dr Malanchini said: "We analysed data from the Milan area, which provides some of the best treatment for heart patients in Italy. Yet even here we are not delivering the best care every day of the week."

The researchers then analysed outcome according to different age cut-offs (under 45, 55, 65, 75, and over 75 years). They found that the risk of dying during a weekend admission got progressively greater as age declined (see figure). Patients under 45 had a more than two-fold risk of dying at

the weekend, while the excess risk in the over-75s was just 5%.

Professor Lombardi said: "This is a new finding, that younger [heart attack patients](#) are particularly vulnerable to the excess mortality linked to weekend admissions."

Men and women were then analysed separately. The researchers found that men admitted on any day of the week with an acute coronary syndrome had a 15% lower risk of death than women. Men were more susceptible to the 'weekend effect', with a 15% increased of death compared to 11% for women.

The observational study did not examine the reasons for the excess mortality at weekends, and the causes are likely multifactorial. But authors said that patients admitted at weekends may have to wait longer for reperfusion therapy to open occluded arteries and restore blood flow.

"The delay in reperfusion during weekends may be more important in younger patients," said Dr Malanchini. "This is usually their first [acute coronary syndrome](#) and they are not receiving aspirin, drugs to lower cholesterol (statins), or drugs to [lower blood pressure](#) (angiotensin converting enzyme inhibitors and beta-blockers). This could make them more vulnerable."

Professor Lombardi said: "The belief that [heart attacks](#) are a 'man's problem' may contribute to a longer gap between symptoms and treatment in women every day of the week, with a resulting higher mortality."

Provided by European Society of Cardiology

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