

Women under-treated for heart attacks die at twice the rate of men

July 22 2018

Published in today's *Medical Journal of Australia*, the study of 2898 patients (2183 men, 715 women) reveals that six months after hospital discharge, death rates and serious adverse cardiovascular events in women presenting with ST-Elevation Myocardial Infarction (STEMI) in the past decade were more than double the rates seen in men.

Sex differences in the management and outcomes of patients with [acute coronary syndromes](#) such as STEMI have been reported in the medical literature, but most studies fail to adjust for 'confounding' factors that can affect the accuracy of findings.

This new study, authored by leading cardiac specialists and researchers from across Australia, offers robust insights into this life-threatening condition by adjusting for factors that could affect treatment and [health outcomes](#).

"We focused on patients with ST-Elevation Myocardial Infarction because the clinical presentation and diagnosis of this condition is fairly consistent, and patients should receive a standardised management plan," said the University of Sydney's Professor Clara Chow who is a cardiologist at Westmead hospital, the study's senior author.

"The reasons for the under-treatment and management of women compared to men in Australian hospitals aren't clear.

"It might be due to poor awareness that women with STEMI are

generally at higher risk, or by a preference for subjectively assessing risk rather than applying more reliable, objective risk prediction tools.

"Whatever the cause, these differences aren't justified. We need to do more research to discover why women suffering serious heart attacks are being under-investigated by health services and urgently identify ways to redress the disparity in treatment and health outcomes."

Professor David Brieger, co-author of the study and leader of the CONCORDANCE registry from which the findings were extracted, agrees: "While we have long recognised that older patients and those with other complicating illnesses are less likely to receive evidence based treatment, this study will prompt us to refocus our attention on women with STEMI."

What is STEMI or ST-elevation myocardial infarction?

A STEMI or ST-elevation myocardial infarction ([heart attack](#)) happens when a fatty deposit on an arterial wall causes a sudden and complete blockage of blood to the heart, starving it of oxygen and causing damage to the heart muscle.

A STEMI diagnosis is typically made initially by administering an electrocardiogram (ECG) that reveals a tell-tale ECG signature (see image below). These heart attacks can cause sudden death due to ventricular fibrillation (a serious heart rhythm disturbance) or [acute heart failure](#) (when the heart can't pump enough blood to properly supply the body).

STEMI represents about 20 percent of all heart attack presentations. In 2016, an average of 22 Australians died from a heart attack each day.

About the study

Researchers collected data from 41 hospitals across all Australian states and territories between February 2009 and May 2016. Twenty-eight hospitals (68 percent) are in metropolitan regions and 13 are in rural locations.

Data was sourced from the CONCORDANCE (Cooperative National Registry of Acute Coronary care, Guideline Adherence and Clinical Events) registry, intended for use by clinicians to help improve the quality of patient care in line with treatment guidelines.

Main outcome measures: the primary outcome was total revascularisation, a composite endpoint encompassing patients receiving PCI ([percutaneous coronary intervention](#)), thrombolysis, or [coronary artery bypass](#) grafting (CABG) during the index admission.

Secondary outcomes: timely vascularisation rates; major adverse cardiac event rates; clinical outcomes and preventive treatments at discharge; mortality in hospital and 6 months after admission.

The average age of women presenting with STEMI was 66.6 years; the average age of men was 60.5 years.

More [women](#) than men had hypertension, diabetes, a history of prior stroke, chronic kidney disease, chronic [heart](#) failure, or dementia. Fewer had a history of previous [coronary artery disease](#) or myocardial infarction, or of prior PCI or CABG.

Dr. Clara Chow is Professor of Medicine at Sydney Medical School, a Consultant Cardiologist at Westmead Hospital and Academic Director of the Westmead Applied Research Centre (WARC). Her principal research interests are in cardiovascular disease prevention in Australia and internationally.

Provided by University of Sydney

Citation: Women under-treated for heart attacks die at twice the rate of men (2018, July 22)
retrieved 6 May 2024 from

<https://medicalxpress.com/news/2018-07-women-under-treated-heart-die-men.html>

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