**DAYLIGHT SAVING TIME AND ACUTE MYOCARDIAL INFARCTION: DOES A GENDER-ORIENTED DIFFERENCE EXIST?**
**R. Manfredini**, F. Fabbian, B. Zucchi, R. Cappadona
Center for Studies on Gender Medicine, University of Ferrara, Ferrara, Italy

**Objective:** Daylight Saving Time (DST) is applied in many countries to prolong the sunlight proportion of the day. Janszky & Ljung (N Engl J Med 2008) first reported a higher incidence of AMI after the spring shift of DST, in particular for women. The aim was to analyze the available evidence on the association between myocardial infarction (MI) and evaluate possible gender-oriented differences.

**Methods:** A search was done by using the MEDLINE, EMBASE, and Google Scholar electronic databases (years 2009 - 2016), with regard to the terms ‘daylight saving time’, and ‘acute myocardial infarction’, and ‘gender’.

**Results:** Six studies were found, four conducted in Europe and two in the United States, including 87,994 cases. They all confirmed a higher occurrence of AMI in the spring shift, whereas one only showed a higher occurrence also in the autumn shift. The results were not univocal when considering gender. As for the spring shift, two studies did not show differences between men and women,two reported a higher frequency in men, and one in women. On the other hand, one only study reported a higher occurrence of AMI in women after the autumn shift.

**Conclusions:** The analysis of available literature seems to confirm the presence of an association between DST and a modest increase of AMI, although only after the spring shift. Moreover, as for analysis by gender, results are contradictory and no definite preference for women is shown. It is possible that even modest sleep deprivation and circadian misalignment may negatively influence cardiovascular health, given that an increased activity of sympathetic tone has been observed even following a partial night sleep deprivation. However, since sleep pattern and individual circadian preference have not been investigated in any study, such hypothesis can be merely speculative.