

Title: Does Acute Myocardial Infarction kill more people on weekends? Evidences of higher in-hospital mortality rate of patients admitted during weekends in Portugal

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ABSTRACT

Introduction: This study aims to investigate whether hospital admissions for Acute Myocardial Infarction (AMI) via emergency department are characterized by higher mortality rate when occurring on weekend. In other words, the study explores the possible existence of a “weekend effect” in Portuguese public hospitals.

Methods: Data from the National 2011-2014 Diagnostic-Related-Group database were analysed. Adult patients admitted with main diagnosis of AMI via emergency department and with complete information were included in the analysis (N=45,962) and grouped in STEMI and Non-STEMI episodes. Multivariate logistic regressions were used in order to determine the association between weekend admission and in-hospital mortality. Control variables included are indexes of episode complexity (Severity Index, acute comorbidities) demographic characteristics and hospitals identifications. Time between admission and cardiac surgical intervention was analysed in order to explore the possible delay of care delivery for patients admitted during weekends.

Results The in-hospital mortality was found not significantly higher for weekend admissions than for weekday admissions in both STEMI and Non-STEMI episodes. After adjusting for cofounders, difference in in-hospital mortality was still not significant. Patients admitted on weekends had lower probability of undergoing invasive cardiac surgery within the day after admission. This result did not lead to lower outcome during weekends in terms of morbidity.

Conclusions: There is no evidence of the existence of weekend effect for admission for AMI in Portugal in STEMI and Non-STEMI episodes.