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Incidence, Characteristics, and Survival Trend of Cardiopulmonary Resuscitation Following In-hospital Compared to Out-of-hospital Cardiac Arrest in Northern Jordan

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Abstract: Background: Cardiac arrest remains a leading cause of mortality worldwide. Early cardiopulmonary resuscitation (CPR) is the cornerstone intervention to optimize the survival rates. Objectives: The main aim of this study was to determine and compare the incidence, characteristics, risk factors, and outcomes of CPR in a referral university hospital following in-hospital cardiac arrests (IHCAs) and out-of-hospital cardiac arrest (OHCA) in Northern Jordan. Patients and Methods: Retrospective observational study of adults referred to King Abdulla University Hospital who received CPR between January 2014 and January 2015. Data were obtained from the medical records of included patients. The primary outcome was survival to hospital discharge. Chi-square and logistic regression analyses were performed to identify risk factors associated with survival to discharge. Results: A total of 79 OHCA and 257 IHCA were included in the study. The overall survival rate for OHCA was 2.97%. The survival rate increased to 4.3% if CPR performed before arriving the hospital. Only 22% of the OHCA cases had CPR performed mainly due to lack of knowledge and skills of bystanders. The survival rate for IHCA was 14.88%. In this study, patient survival was not associated with age, smoking habit, diabetes mellitus, cancer status, hypertension, or heart failure. Conclusion: This is the first study to describe the incidence and outcome of adult IHCA and OHCA in Jordan. The findings will serve as a benchmark to evaluate future impact of changes in service delivery, organization, and treatment for OHCA and IHCA. Furthermore, findings will urge the regulatory bodies to establish well-structured Emergency Medical Service system. Educational programs at the national level to improve public awareness of CPR intervention are crucial to improve survival rates. Keywords: Arrests, cardiac, in-hospital, survival