**BOTH BYSTANDER'S OWN AND DISPATCHER-ASSISTED RESUSCITATION EFFORTS ARE DEPRESSED DURING NIGHTTIME IN OUT-OF-HOSPITAL CARDIAC ARRESTS WITNESSED BY NON-FAMILY BYSTANDERS**

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**Objective:**To investigate temporal differences in bystander's own and dispatcher-assisted resuscitation efforts.

**Methods:**Retrospective analyses for prospectively collected data from 227,524 bystander-witnessed out-of-hospital cardiac arrests (OHCAs) between 2007 and 2013 in Japan, with calculations of indices related to dispatcher-assisted cardiopulmonary resuscitation (DA-CPR) and bystander CPR.

**Results:**In all bystander-witnessed OHCAs, performance of bystander CPR measured by the rate of bystander-initiated CPR in cases without DA-CPR (Correlation between hourly paired values, R2 = 0.263, P =0.01), but not DA-CPR sensitivity (R2 =0.006, P = 0.73) or bystander's compliance to DA-CPR assessed by the proportion of bystanders who follow DACPR (R2 = 0.109, P = 0.12) was similar to temporal differences in the neurologically favourable one-month survival rate: a lower survival rate (3.4% vs 4.2%) and performance of bystander CPR (23.1% vs 30.9%) at nighttime (22:00-6:00) than at non-nighttime. However, in subgroup analyses based on interaction tests, all three indices deteriorated during nighttime when OHCAs were witnessed by non-family (adjusted odds ratio, 0.73-0.82), particularly in non-elderly patients. The rate of public access defibrillation in OHCA of presumed cardiac etiology markedly decreased during nighttime (adjusted odds ratio; 95% CI, 0.42; 0.36-0.50) with delayed emergency calls and bystander CPR initiation. Multivariable logistic regression analyses revealed that the survival rate of non-family-witnessed OHCAs was 1.83-fold lower during nighttime than during non-nighttime.

**Conclusion:** DA-CPR is not effective and bystander's own resuscitation efforts are low during nighttime in OHCAs witnessed by non-family bystanders. A divisional alert system to recruit well-trained individuals to the OHCA scene is needed in order to improve the outcomes of nighttime OHCAs witnessed by non-family bystanders.