A75 - Time factors, basic life support performance and outcomes of out-of-hospital cardiac arrests detected by schoolchildren

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Introduction:
Basic life support (BLS) education and training for school children is active in Japan. However, the BLS action by schoolchildren may be limited by school rules. This study aimed to analyse the time factors for basic life support performance and outcome in classmate-witnessed out-of-hospital cardiac arrest (OHCA) and to investigate how schoolchildren act when they detect OHCA.

Methods:
Nation-wide database for 1,068 school children cases with OHCA and local extended database for 5,478 EMS-unwitnessed OHCA, both of which were prospectively collected during the period of 2011–2016, were retrospectively analysed.

Results:
Proportion of schoolchildren-detected OHCA was low in classmate cases (16.8%, 179/889) in nationwide database and extremely low in all EMS-unwitnessed OHCAs (1.6%, 88/5,478) in local database. Nationwide database analyses revealed that both emergency call and bystander CPR were delayed when a classmate witnessed the OHCA case: median, 1 vs. 0 min and 3 vs. 2 min, respectively. Classmate-witnessed cases were associated with higher incidences of shockable initial rhythm, AED use and traumatic causes. The rate of neurologically favourable outcome was 19.6% and 12.3%, respectively in classmate-witnessed and other cases: adjusted OR; 99% CI, 1.24; 0.63–2.47. Of 88 cases detected by schoolchildren in our prefecture, 8 (34%) cases had presumed cardiac aetiology and 12(13.8%) cases were caused by suicide attempts (hanging and fall). School children placed emergency 119 calls as the first action only in 32 (36.4%) cases. Emergency calls were largely delayed when school children dialled other numbers or left the scene to seek adult help. School children were rarely involved in bystander CPR (21%) and AED placement (1%).

Conclusion:
School children are rarely involved in entire BLS. Emergency calls and bystander CPR are delayed when schoolchildren act to seek help. Because schoolchildren detect suicide-related OHCAs, psychological care to schoolchildren involved in BLS may be necessary.