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Australia – Community Training

Bystander CPR: How Patient Relationship and Medical Training Affect Outcomes in Victoria, Australia

BRIEF BACKGROUND

Bystander CPR and defibrillation is associated with higher survival rates for OHCA. However, little is known if the CPR provider's relationship to the patient or their level of medical training has an impact on patient survival. Retaining the knowledge of who is providing CPR and their impact on survival will help inform future public awareness campaigns and training strategies.

To identify CPR-givers' relationships to their patients, as well as level of medical training, this Australia-based team reviewed patient care reports for bystander CPR recipients for all out-of-hospital cardiac arrests (OHCA) in 2015 and 2016.

STEPS TAKEN

Based on the Victorian Ambulance Cardiac Arrest Registry, all non-traumatic OHCA patients who received CPR and Emergency Medical Services resuscitation from January 1, 2015 through December 31, 2017 were included. Patient care reports were analyzed to ascertain the relationship of the patient to the person providing CPR, as well the provider's level of medical qualification. The team performed multivariable logistic regression to assess the association between survival to hospital discharge and related bystander CPR (family, friends and colleagues) versus medical bystander CPR (healthcare professional).

CHALLENGES

Bystander CPR from a healthcare professional was associated with increased survival. This is an important finding and has implications when planning the dispatch of community responders to cardiac arrest patients. Sixty-four percent of all bystander CPR providers were either related to or known to the patient, and 96.5% of OHCA who received bystander CPR from a relative occurred in the home. This data should be used to highlight that bystander CPR training will be most beneficial to the family and friends of the provider.

RESULTS

Data indicated that 2,385 (53.4%) OHCA patients received bystander CPR from a relative, 468 (10.5%) from a friend or colleague and 1,611 (36.1%) from a bystander unrelated to the patient. Of those providing bystander CPR, 3,703 (83%) were laypersons and 761 (17%) were healthcare professionals. Using multivariable regression analysis adjusted for known Utstein factors, medical bystander CPR was found to be associated with increased odds of survival to hospital discharge (14.5% vs. 13.8%, OR: 1.4 [95% CI: 1.02 – 1.92]) compared to those who received lay bystander CPR. No association between the relationship to the patient and survival to hospital discharge was detected.

OUTLOOK

The team will continue the expansion of the Good SAM first responder program and training of members of the public in bystander CPR use to ensure the initial links in the chain of survival are present for all OHCA in Victoria.

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