Supplementary Table 1. Key information of the included original articles.

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| No | Author | Title | Journal | Publication year | Included CA group | Category |
| 1 | Aaron J. Donoghue *et al*. [1] | Cardiopulmonary resuscitation for in-hospital events in the emergency department: A comparison of adult and pediatric outcomes and care processes | Resuscitation | 2015 | EDCA | 1 |
| 2 | Alina Toma *et al*. [2] | Perceived barriers to therapeutic hypothermia for patients resuscitated from cardiac arrest: a qualitative study of emergency department and critical care workers | Critical Care Medicine | 2010 | OHCA+EDCA | 3 |
| 3 | Amy L. Valderrama *et al*. [3] | Cardiac arrest patients in the emergency department-National Hospital Ambulatory Medical Care Survey, 2001-2007 | Resuscitation | 2011 | OHCA+EDCA | 1 |
| 4 | An-Yi Wang *et al*. [4] | Peri-arrest Modified Early Warning Score (MEWS) predicts the outcome of in-hospital cardiac arrest | Journal of the Formosan Medical Association | 2015 | EDCA | 2 |
| 5 | Babith Mankidy *et al*. [5] | Reduction of in-hospital cardiac arrest with sequential deployment of rapid response team and medical emergency team to the emergency department and acute care wards | PLoS One | 2020 | EDCA+IHCA | 3 |
| 6 | Cássia Regina Vancini-Campanharo *et al*. [6] | Characterization of cardiac arrest in the emergency department of a Brazilian University Reference Hospital: A prospective study | The Indian Journal of Medical Research | 2016 | OOCA+EDCA | 1 |
| 7 | Cássia Regina Vancini-Campanharo1 *et al*. [7] | One-year follow-up of neurological status of patients after cardiac arrest seen at the emergency room of a teaching hospital | Einstein | 2015 | OHCA+EDCA | 1 |
| 8 | Chin Siah Lim *et al*. [8] | Is bispectral index (BIS) monitoring in the emergency department helpful for prognostication during resuscitation of cardiac arrest patients? | Proceedings of Singapore Healthcare | 2015 | OHCA+EDCA | 1 |
| 9 | Chung-Ting Chen *et al*. [9] | Prognostic factors for survival outcome after in-hospital cardiac arrest: An observational study of the oriental population in Taiwan | Journal of the Chinese Medical Association | 2015 | EDCA+IHCA | 1 |
| 10 | Dong-Hyun Jang *et al*. [10] | Developing neural network models for early detection of cardiac arrest in emergency department | American Journal of Emergency Medicine | 2019 | EDCA+IHCA | 2 |
| 11 | Erin F. Hoehn *et al*. [11] | Peri-Intubation Cardiac Arrest in the Pediatric Emergency Department: A Novel System of Care | Pediatric Quality and Safety | 2020 | EDCA | 3 |
| 12 | Filiz Baloglu Kaya *et al*. [12] | Comparison of manual and mechanical chest compression techniques using cerebral oximetry in witnessed cardiac arrests at the emergency department: A prospective, randomized clinical study | American Journal of Emergency Medicine | 2020 | EDCA | 3 |
| 13 | Fu-Yuan Siao *et al*. [13] | Managing cardiac arrest with refractory ventricular fibrillation in the emergency department: Conventional cardiopulmonary resuscitation versus extracorporeal cardiopulmonary resuscitation | Resuscitation | 2015 | OHCA+EDCA | 3 |
| 14 | Georgescu V *et al*. [14] | Traumatic cardiac arrest in the emergency department - Overview upon primary causes | Journal of Medicine and Life | 2014 | EDCA | 1 |
| 15 | German Devia Jaramillo *et al*. [15] | Rhythms and prognosis of patients with cardiac arrest, emphasis on pseudo-pulseless electrical activity: another reason to use ultrasound in emergency rooms in Colombia | International Journal of Emergency Medicine | 2020 | OHCA+EDCA | 3 |
| 16 | H.-J. Busch *et al*. [16] | Safety and feasibility of nasopharyngeal evaporative cooling in the emergency department setting in survivors of cardiac arrest | Resuscitation | 2010 | OHCA+EDCA | 3 |
| 17 | Hannah M. Preston *et al*. [17] | A description of echocardiography in life support use during cardiac arrest in an Emergency Department before and after a training programme | European Journal of Emergency Medicine | 2015 | OHCA+EDCA | 3 |
| 18 | Hiroshi Okamoto *et al*. [18] | Comparison of video laryngoscopy versus direct laryngoscopy for intubation in emergency department patients with cardiac arrest: A multicentre study | Resuscitation | 2018 | OHCA+EDCA | 3 |
| 19 | Inyong Kim *et al*. [19] | Use of the National Early Warning Score for predicting in-hospital mortality in older adults admitted to the emergency department | Clin Exp Emerg Med | 2020 | EDCA+IHCA | 2 |
| 20 | J. Zwingmann *et al*. [20] | Outcome and predictors for successful resuscitation in the emergency room of adult patients in traumatic cardiorespiratory arrest | Critical Care | 2016 | OHCA+EDCA | 1 |
| 21 | Jiang Cheng *et al*. [21] | Improving cardiopulmonary resuscitation in the emergency department by real-time video recording and regular feedback learning | Resuscitation | 2010 | OHCA+EDCA | 3 |
| 22 | June-sung Kim *et al*. [22] | Maximum emergency department overcrowding is correlated with occurrence of unexpected cardiac arrest | Critical Care | 2020 | EDCA | 4 |
| 23 | June-sung Kim *et al*. [23] | Prolonged Length of Stay in the Emergency Department and Increased Risk of In-Hospital Cardiac Arrest: A nationwide Population-Based Study in South Korea, 2016–2017 | Journal of Clinical Medicine | 2020 | EDCA+IHCA | 2 |
| 24 | Kap Su Han *et al*. [24] | Experience of extracorporeal cardiopulmonary resuscitation in a refractory cardiac arrest patient at the emergency department | Clinical Cardiology | 2019 | OHCA+EDCA | 3 |
| 25 | Kumpol Amnuaypattanapon *et al*. [25] | Evaluation of related factors and the outcome in cardiac arrest resuscitation at Thammasat Emergency Department | Journal of the Medical Association of Thailand | 2010 | OHCA+EDCA | 2 |
| 26 | Li-Heng Tsai *et al*. [26] | Association of patient-to-emergency department staff ratio with the incidence of cardiac arrest: A retrospective cohort study | Surgery Signa Vitae | 2021 | EDCA | 2 |
| 27 | Mallika R. Singh *et al*. [27] | Barriers to point-of-care ultrasound utilization during cardiac arrest in the emergency department: a regional survey of emergency physicians | American Journal of Emergency Medicine | 2021 | OHCA+EDCA | 3 |
| 28 | Marcus Eng Hock Ong *et al*. [28] | A randomised, double-blind, multi-centre trial comparing vasopressin and adrenaline in patients with cardiac arrest presenting to or in the Emergency Department | Resuscitation | 2012 | OHCA+EDCA | 3 |
| 29 | Marcus Eng Hock Ong *et al*. [29] | Prediction of cardiac arrest in critically ill patients presenting to the emergency department using a machine learning score incorporating heart rate variability compared with the modified early warning score | Critical Care | 2012 | EDCA+IHCA | 2 |
| 30 | Micheal Blaivas *et al*. [30] | Outcome in cardiac arrest patients found to have cardiac standstill on the bedside emergency department echocardiogram | Academic Emergency Medicine | 2001 | OHCA+EDCA | 3 |
| 31 | Michael D. April *et al*. [31] | Peri-intubation cardiac arrest in the Emergency Department: A National Emergency Airway Registry (NEAR) study | Resuscitation | 2021 | EDCA | 3 |
| 32 | Nan Liu *et al*. [32] | Prediction of adverse cardiac events in emergency department patients with chest pain using machine learning for variable selection | BMC Medical Informatics and Decision Making | 2014 | EDCA+IHCA | 2 |
| 33 | Nancy Mikati *et al*. [33] | Data-driven classification of arrest location for emergency department cardiac arrests in the USA | Resuscitation | 2020 | OHCA+EDCA+IHCA | 1 |
| 34 | Nicholas J. Johnson *et al*. [34] | Emergency department factors associated with survival after sudden cardiac arrest | Resuscitation | 2012 | OHCA+EDCA | 1 |
| 35 | Nicholas Pokrajac *et al*. [35] | Risk Factors for Peri-intubation Cardiac Arrest in a Pediatric Emergency Department | Pediatr Emerg Care | 2020 | EDCA | 3 |
| 36 | Pandian, G.R., *et al*. [36] | Profile and outcome of sudden cardiac arrests in the emergency department of a tertiary care hospital in South India | Journal of Emergencies Trauma and Shock | 2016 | OHCA+EDCA | 1 |
| 37 | Paul R. Atkinson *et al*. [37] | Do Electrocardiogram Rhythm Findings Predict Cardiac Activity During a Cardiac Arrest? A Study from the Sonography in Cardiac Arrest and Hypotension in the Emergency Department (SHoC-ED) Investigators | Cureus | 2018 | OHCA+EDCA | 3 |
| 38 | Robert G. Kayser *et al*. [38] | Cardiac arrest in the Emergency Department: a report from the National Registry of Cardiopulmonary Resuscitation | Resuscitation | 2008 | EDCA | 1 |
| 39 | Romolo Gaspari *et al*. [39] | Emergency department point-of-care ultrasound in out-of-hospital and in-ED cardiac arrest | Resuscitation | 2016 | OHCA+EDCA | 3 |
| 40 | Roshini Ravindran *et al*. [40] | Cardiac arrest and related mortality in emergency departments in the United States: Analysis of the nationwide emergency department sample | Resuscitation | 2020 | OHCA+EDCA | 1 |
| 41 | Sang Bong Lee *et al*. [41] | Emergency Department Triage Early Warning Score (TREWS) predicts in-hospital mortality in the emergency department | American Journal of Emergency Medicine | 2020 | EDCA+IHCA | 2 |
| 42 | Sang Jin Han *et al*. [42] | Predictors of survival following extracorporeal cardiopulmonary resuscitation in patients with acute myocardial infarction-complicated refractory cardiac arrest in the emergency department: a retrospective study | Journal of Cardiothoracic Surgery | 2015 | OHCA+EDCA | 3 |
| 43 | Sing C. Tan *et al*. [43] | Cardiac arrests within the emergency department: an Utstein style report, causation and survival factors | European Journal of Emergency Medicine | 2018 | EDCA | 1 |
| 44 | Su Yeong Pyo *et al*. [44] | Impact of the modified SESAME ultrasound protocol implementation on patients with cardiac arrest in the emergency department | American Journal of Emergency Medicine | 2021 | OHCA+EDCA | 3 |
| 45 | Sungjun Hong *et al*. [45] | Prediction of Cardiac Arrest in the Emergency Department Based on Machine Learning and Sequential Characteristics: Model Development and Retrospective Clinical Validation Study | JMIR Med Inform | 2020 | EDCA | 2 |
| 46 | Surendar Ravipragasam *et al*. [46] | Survival to discharge after in-hospital cardiac arrest at emergency department and its associated factors: A prospective observational study | Journal of Acute Disease | 2019 | EDCA | 1 |
| 47 | Tianchi Liu *et al*. [47] | Manifold ranking based scoring system with its application to cardiac arrest prediction: A retrospective study in emergency department patients | Computers in Biology and Medicine | 2015 | EDCA+IHCA | 2 |
| 48 | Han *et al*. [48] | Validation of different score systems in predicting cardiac arrest occurrence of ST-elevation myocardial infarction | Hong Kong Journal of Emergency Medicine | 2017 | EDCA+IHCA | 2 |
| 49 | Winchana Srivilaithon *et al*. [49] | Predictors of in-hospital cardiac arrest within 24 h after emergency department triage: A case-control study in urban Thailand | Emergency Medicine Australasia | 2019 | EDCA+IHCA | 2 |
| 50 | Winchana Srivilaithon *et al*. [50] | The Outcomes of Targeted Temperature Management after Cardiac Arrest at Emergency Department: A Real-World Experience in a Developing Country | Therapeutic Hypothermia and Temperature Management | 2016 | OHCA+EDCA | 3 |
| 51 | Won Young Kim *et al*. [51] | Factors associated with the occurrence of cardiac arrest after emergency tracheal intubation in the emergency department | PLoS ONE | 2014 | EDCA | 3 |
| 52 | Yu-Hsin Chang *et al*. [52] | Association of sudden in-hospital cardiac arrest with emergency department crowding | Resuscitation | 2019 | EDCA | 4 |

Category- 1: Epidemiology and prognosis; 2: Prediction and risk factors; 3: Skill related; 4: ED overcrowdedness.

OHCA, Out-of-Hospital Cardiac Arrest; IHCA, In-Hospital Cardiac Arrest; EDCA, Emergency Department Cardiac Arrest.

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