

## Prevention and Early Management of In-Hospital Cardiac Arrest: A Challenge for Nursing Educators

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### Editorial

Cardiac arrest can be defined as the heart's inability to effectively eject blood out due to either an electrical or mechanical failure. This condition poses an immediate threat to life and is always considered to be a medical emergency. In Western countries, cardiac arrest is continuously highlighted as one of the leading causes of in-hospital death and the latest research suggests that survival rates after suffering one of these episodes still remain below 20% [1-3]. Consequently, prevention and effective early management of in-hospital cardiac arrest constitute the basis of international algorithms for saving lives.

According to the European Resuscitation Council (ERC), the prevention of in-hospital cardiac arrest can be achieved through the early recognition of deteriorating patients and it should be pursued as the primary objective in resuscitation care [4]. If the efforts to prevent cardiac arrest fail and the patient's heart stops pumping effectively, the focus should immediately be shifted onto recognising the signs of the arrest, calling for help, initiating cardiopulmonary resuscitation (CPR) and using an automated external defibrillator (AED) without delay [5].

Due to the front-line nature of their profession, nurses are often either direct witnesses or first responders to emergency situations in hospital settings [6,7]. These situations are usually unexpected and include having to deal with both acutely ill patients and cardiac arrest events until the medical emergency team arrives to the scene. Therefore, qualified nurses play a pivotal role in the prevention and early management of in-hospital cardiac arrest and their competence could have a direct impact on patient outcomes [4-7]. Accordingly, all nurses, irrespective of their speciality, background and level of expertise are expected to be fully competent in the following skills: 1) assessing a deteriorating patient using the ABCDE approach, 2) escalating clinical concerns and communicating clinical information, 3) recognising a cardiac arrest, 4) activating the emergency system in place, 5) performing effective CPR, and 6) using an AED safely [4-7].

Although most undergraduate nursing programmes now include training in all the aforementioned skills, research often suggests that nurses and nursing students continue to lack competence in clinical assessment, inter-professional communication and basic resuscitation skills [4,8-10]. Since competence in these skills has been associated to safe practice and positive patient outcomes, [4-5] nursing educators are faced with a double challenge. Firstly, we must find new, more effective educational approaches that promote competence acquisition and retention when applied to teaching nursing students how to recognise a deteriorating patient, how to communicate and escalate clinical information, and how to perform effective CPR and safely use an AED without delay when needed. Secondly, we should also design and validate reliable, comprehensive assessment tools that contribute to the implementation and standardisation of rigorous formal assessment of

competence amongst nurses and nursing students before they are allowed to practise without supervision [11].

With the paradigm of higher education changing globally, opportunities for practising the aforementioned skills in real clinical environments are scarce; however, upon graduation, nurses continue to be expected to be fully competent in the initial management of in-hospital emergencies. As a consequence, the importance of classroom practice grows proportionally. In answer to this, Nursing Faculties around the globe are investing enormous amounts of material and human resources in the provision of simulated experiences that can emulate real-life situations with a rather amazing level of realism. Nonetheless, despite the efforts made, research often shows that the educational approaches used to teach nursing students how to deal with an in-hospital emergency situation do not always guarantee their acquisition and retention of competence [9-10].

Although the solution to this challenge can prove difficult, perhaps nursing educators should direct their efforts towards the creation of a person-centred approach to teaching and assessing competence in the prevention and early management of in-hospital cardiac arrest. On the one hand, this means understanding competence as the integration of knowledge, skills and attitudes that allows individuals to make the right decisions in order to achieve a desired outcome. On the other hand, it requires recognising that, as adult learners, nursing students are self-directed human beings whose life experiences may determine their internal motivation towards problem-centred learning [12]. Firstly, this conceptualisation of competence could shift the current paradigm of assessment into a more holistic one, which may in turn foster a deeper, more comprehensive insight into the real educational needs of our learners [13]. Secondly, together with this holistic assessment approach, the development and implementation of self-directed teaching interventions could contribute to the promotion of deep, lifelong learning resulting in competence acquisition and retention [14].

Ultimately, the reality is that guaranteeing nursing students' acquisition and retention of competence in prevention and early management of in-hospital cardiac arrest could make the difference between life and death. Nursing educators are, therefore, faced with a very complex challenge that could be successfully addressed using a person-centred approach to teaching and assessing. Further research into the effects of implementing such approach should be conducted.

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