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ORIGINAL ARTICLE

Documentation of cardiopulmonary resuscitation decisions in a New Zealand hospital: A prospective observational study

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Cardiac arrest;
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Summary
Introduction: Documentation of cardiopulmonary resuscitation (CPR) decisions is often poor. Lack of documented decisions risks inappropriate CPR and staff, patient and family distress.
Objective: To examine documented evidence of CPR decisions.
Method: Using a prospective observational design, case notes of current patients in 16 wards were reviewed for documented evidence of CPR decisions. Data were collected over a consecutive two-day period in April 2015.
Results: 151 patients case notes were reviewed; 41 (27.2%) patients had documented decisions and 110 (72.8%) had no decisions documented. When compared to patients with no documented decisions, those with documented decisions were older ($p \leq 0.001$), had a greater number of admission days at time of data collection ($p = 0.02$) and more comorbidities ($p \leq 0.001$). In those with documented decisions, advancing age was related to a greater number of comorbidities ($p = 0.02$) but not to an increased number of admission days at time of data collection ($p = 0.81$). In the non-documented group advancing age was related to both an increased number of admission days at time of data collection ($p \leq 0.001$) and a greater number of comorbidities ($p \leq 0.001$).
Conclusion: Documentation of CPR decisions is suboptimal. Improving documentation reduces staff, patient and family distress and allows appropriate and dignified end of life care.

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Implications for clinical practice

- Documentation of CPR decisions is suboptimal.
- When compared to surgical patients, medical patients are more likely to have documented CPR decisions.
- Documented CPR decisions reduces stress to staff, patients and their families and enables appropriate and dignified end of life care.

Introduction

In hospital cardiac arrest is one of the most critical events within the healthcare setting and requires consistent processes to achieve the right outcome for the patient (Allan et al., 2011). Do not attempt resuscitation (DNAR) orders are defined as advanced medical directives to withhold cardiopulmonary resuscitation (CPR) during cardiac arrest (DeDecker et al., 2014; McLennan et al., 2011). In New Zealand hospitals, as in many other countries, it is mandatory to attempt CPR after cardiac arrest unless the contrary is documented in the patient's clinical notes (Brown et al., 2014; McNamee and O'Keeffe, 2004; McLennan et al., 2011; Mockford et al., 2014).

The general public often has unrealistic expectations of CPR that rarely reflects reality (Salins and Jansen, 2011). Most research describes survival to hospital discharge rates between 14% and 19%, which vastly differs from the public perception of survival which is reported to be up to 90% (Kazaure et al., 2013). Cardiopulmonary resuscitation is not a harmless intervention and has a low success rate (McNamee and O'Keeffe, 2004). Whilst cardiac arrest survival to hospital discharge has improved, this has not been the case for functional status and as a result more cardiac arrest survivors are now discharged to hospice or long-term care facilities (Kazaure et al., 2013).

This study examined documentation of CPR decisions at a tertiary metropolitan hospital in New Zealand. The study aimed to answer the following research questions: (1) how frequently were CPR decisions documented, (2) what factors determined documentation of CPR decisions, (3) did CPR decisions reflect the hospital policy and (4) who documented CPR decisions. Key parts of the hospital policy are outlined in Box 1. Fig. 1 outlines the hospital CPR decision form.

Box 1 Local hospital CPR policy
A decision on not for CPR should be made within 24 hours of a patient's admission to hospital or of the patient's condition changing. . . . . .The decision should be made in consultation with the patient, their family and other health professionals involved in the care of that patient. . . it is the responsibility of the consultant or senior medical officer (or house officer) with the approval of the SMO to document the not for CPR decision.

The rationale for the study was anecdotal accounts from critical care outreach nurses reporting no documented CPR status when attending cardiac arrests; this meant these patients received CPR as part of their resuscitation. Some of these patients achieved return of spontaneous circulation but after the cardiac arrest team familiarised themselves with the patient's clinical data, or the patient was reviewed by their parent team, the decision to discontinue resuscitation was made. This placed stress on the critical care outreach and ward nurses involved in resuscitating the patient.

International guidelines suggest a coordinated interdisciplinary approach to DNAR decisions, yet nurses are frequently excluded from DNAR discussions (Imhof et al., 2011; Saevareid and Balandin, 2011). Nurses spend more time with patients, notice crucial changes in patients' conditions, and are often more knowledgeable about their patients' needs and preferences (Imhof et al., 2011; Steed, 2012). Hence nurses have a key role in recognising when DNAR issues have not been addressed and notifying patients' teams to ensure the right decision for these patients can be made in a timely manner (Steed, 2012).

Background

Documentation of CPR decisions is variable. Documentation of DNAR orders are more likely to occur in hospitalised patients under the care of palliative care teams or in situations where parent teams have determined patients are unlikely to survive their hospital stay. Holley et al. (2009) demonstrated 87.3% of the 497 medical patients who had died during their hospital stay had documented DNAR orders. In a later Australian study of 88 hospital patients who were referred to the palliative care service prior to their death, 96.6% of patients had documented DNAR status (Salins and Jansen, 2011).

The likelihood of older hospital patients having documented DNAR orders is inconsistent. Holley et al. (2009) identified the average age for a patient with documented DNAR orders was 71.7 years compared to 64.1 years in the not documented group. These results are in contrast to the findings in a more recent Australian study of people aged 70 years or older admitted from the emergency department to the medical ward (Brown et al., 2014); Although the mean age in this Australian study was 85 years, only one third of the 99 patients had documented resuscitation decisions within 48 hours of their admission (Brown et al., 2014).

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