

Do Cardiac Rehabilitation Programs Offer Cardiopulmonary Resuscitation Training in Australia and New Zealand?



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Background

Cardiac rehabilitation may provide an ideal environment to train high-risk cardiac patients and their families in cardiopulmonary resuscitation (CPR). However, whether this training is currently offered is unknown. The aims of this study were to: 1) describe the prevalence of CPR training in cardiac rehabilitation programs in Australia and New Zealand (NZ); and 2) examine perceived barriers and attitudes of cardiac rehabilitation coordinators towards providing CPR training.

Methods

We conducted a cross-sectional online survey of Australian and NZ cardiac rehabilitation coordinators.

Results

We received 253 completed surveys (46.7% response rate) (Australia n=208, NZ n=45). Cardiopulmonary resuscitation training was included in 23.9% of Australian programs and 56.6% in NZ. Common barriers to CPR training included lack of resources (49.7%) and a lack of awareness to provide CPR training for this high-risk group (33.7%). The majority of coordinators believed that lay people should be trained in CPR (96.3%) and were comfortable with recommending CPR training to this high-risk group (89.4%).

Conclusions

While cardiac rehabilitation coordinators have positive attitudes towards CPR training, it is not currently part of most programs – particularly in Australia. Organisations formulating cardiac rehabilitation recommendations and guidelines should give consideration to include the provision of CPR training.

Keywords

Cardiopulmonary resuscitation • Rehabilitation • Education • Cardiovascular nursing • Heart arrest • Death • Sudden cardiac

Introduction

Out of hospital cardiac arrest (OHCA) is a major public health problem [1]. Global incidence of OHCA is estimated at 95.9 per 100,000 person-years [2]. Despite advances in pre- and post-resuscitation therapies, for example, increasing access to public defibrillators, survival remains low and is

variable between countries [2]. In Australia and New Zealand (NZ) survival to hospital discharge after OHCA ranges between 6 – 13% [2].

Survival from OHCA is often dependent on bystanders performing Basic Life Support (BLS), prior to an ambulance arriving [3]. The sequence of steps in BLS includes, recognition of the condition, calling for help and commencing

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cardiopulmonary resuscitation (CPR) [4]. The concept of targeting BLS training, and specifically CPR training, to those persons most likely to witness a cardiac arrest has been advocated for over 25 years [5]. One identified target group is the family members of patients who have suffered a heart attack, as they are at high-risk of repeat events including OHCA [5,6].

There have been many attempts to target CPR training to cardiac patients and their family members [7–10]. These studies have included public training sessions [7] and programs conducted during or after hospitalisation [8–10]. However, such strategies are resource intensive and have had low rates of recruitment. Future programs must consider the timing of training, which must be balanced with consideration of the patient's condition and potential overload with other health information [11]. In addition, strategies that utilise existing infrastructure are likely to be more feasible.

Cardiac rehabilitation provides education about secondary prevention of heart disease for patients who have suffered an acute cardiac event and is usually conducted in the outpatient setting. Such programs provide an ideal point of capture for cardiac patients in a less acute phase of recovery. Currently, cardiac rehabilitation guidelines vary widely in their recommendations for BLS or CPR training [12–16]. Furthermore, it is unknown if cardiac rehabilitation programs are actually offering CPR training. Our study aims to measure the prevalence of CPR training in cardiac rehabilitation programs across Australia and NZ. In addition, we sought to identify the barriers to providing CPR training, as well as cardiac rehabilitation coordinators' attitudes towards bystander CPR and CPR training.

Subjects and Methods

An online, anonymous, cross sectional survey was conducted from October 2014 to January 2015. This study was approved by Monash University Human Ethics Research Committee (CF14/2889 – 2014001596). Contact details for 575 coordinators of cardiac rehabilitation programs across Australia and NZ were identified from two national public registers. Coordinators were invited via email to complete the survey, with 542 email invitations successfully sent.

We developed survey questions based on previous research conducted by Richardson and Lie in the UK [17,18]. Our survey consisted of 33 questions in three sections; (1) characteristics of the cardiac rehabilitation program and demographics of the coordinators; (2) current provision of CPR training and barriers to training; and (3) coordinators' attitudes towards CPR training using a five-point Likert-scale. We added an additional question to ascertain whether coordinators would consider using a self-instructional CPR training kit.

Two local cardiac rehabilitation coordinators reviewed the survey for face validity and the survey was piloted on 30 participants. Only minimal changes were required; the addition of categories to response options and re-wording of some

questions. The survey took coordinators 10 – 15 minutes to complete. A paper-based version of the survey was also provided if requested.

Statistical Analysis

Following descriptive analysis, we performed tests of association using the chi-squared statistic to compare a priori defined sub-groups: Australia and NZ, rural and metropolitan regions, and the presence or absence of a resuscitation coordinator at the rehabilitation site. Statistical significance level was set at $p < 0.05$. Analysis was conducted with SPSS v20 (Armonk, NY: IBM corp).

Results

Of the 542 cardiac rehabilitation coordinators who were successfully emailed, 253 (46.7%) participated in the survey. There were similar response rates achieved in Australia (45.6%) and NZ (52.3%). Responses were received from every state and territory in Australia and 13 of 16 regions in NZ. Data from two coordinators were excluded as there was no cardiac rehabilitation program currently running at these sites. The majority of respondents were nurses (81.5%) and female (89.1%) (Table 1).

Characteristics of Cardiac Rehabilitation Programs

The characteristics of cardiac rehabilitation programs were similar for both countries. Most cardiac rehabilitation programs were conducted outside of a major capital city (67%) and were in the public sector (86%). Most programs were well-established, with 63% operating for more than 10 years, and most were linked to hospitals (59%) or community health services (35%). Several differences between the two countries were observed, with NZ having higher rates of independent programs not linked to hospitals (24.4% vs 2.9%, $p < 0.001$) and more regular family attendance in the program (48.9% vs 28.9%, $p = 0.01$).

CPR Training and Information Provision

Overall, CPR training was conducted in 74 (29.7%) cardiac rehabilitation programs, and was offered in more NZ programs than Australian (56.6% vs. 23.9%, $p < 0.001$) (Table 2). Most commonly the training was a component of the cardiac rehabilitation program (81.1%), as opposed to an optional (9.5%) or stand-alone (2.7%) session. The majority of programs provided education on the other components of BLS, namely, the warning signs of a heart attack (94%) and how to call for an ambulance (90%). Verbal or written information about CPR or where to receive training was provided in 26.3% of programs, and more often in NZ (47.4% vs 23.7%, $p = 0.05$).

In programs conducting CPR training, it was primarily offered to patients (97%) and immediate family members (85.1%). In most programs the duration of CPR training was one hour or less (79%), and was given by cardiac

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