Australasian Emergency Nursing Journal xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Australasian Emergency Nursing Journal

journal homepage: www.elsevier.com/locate/aenj

Research paper

Effect of gender on evidence-based practice for Australian patients with acute coronary syndrome: A retrospective multi-site study

Lisa Kuhn[a,b,c,*], Karen Page[b], Maryann Street[a,b,c], John Rolley[a,b,d], Julie Considine[a,b,c]

[a] Deakin University Centre for Quality and Patient Safety Research, Faculty of Health, Geelong, VIC, 3220, Australia
[b] Deakin University School of Nursing and Midwifery, Faculty of Health, Geelong, VIC, 3220, Australia
[c] Eastern Health-Deakin University Nursing and Midwifery Research Centre, Level 2, 5 Arnold Street, Box Hill, VIC 3128, Australia
[d] Disciplines of Nursing & Midwifery, Faculty of Health, University of Canberra, University Drive, Bruce, ACT 2617, Australia

ARTICLE INFO

Article history:
Received 10 October 2016
Received in revised form 3 February 2017
Accepted 3 February 2017
Available online xxx

Keywords:
Acute coronary syndrome
Emergency department
Emergency nursing
Evidence-based practice
Myocardial infarction

ABSTRACT

Background: Early acute coronary syndrome (ACS) care occurs in the emergency department (ED). Death and disability from ACS are reduced with access to evidence-based ACS care. In this study, we aimed to explore if gender influenced access to ACS care.
Methods: A retrospective descriptive study was conducted for 288 (50% women, n = 144) randomly selected adults with ACS admitted via the ED to three tertiary public hospitals in Victoria, Australia from 1.1.2013 to 30.6.2015.
Results: Compared with men, women were older (79 vs 75.5 years; $p = 0.009$) less often allocated triage category 2 (58.3 vs 71.5%; $p = 0.026$) and waited longer for their first electrocardiograph (18.5 vs 15 min; $p = 0.001$). Fewer women were admitted to coronary care units (52.4 vs 65.3%; $p = 0.023$), but were more often admitted to general medicine units (39.6 vs 22.9%; $p = 0.003$) than men. The median length of stay was 4 days for both genders, but women were admitted for significantly more bed days than men (IQR 3–7 vs 2–5; $p = 0.005$).
Conclusions: There were a number of gender differences in ED care for ACS and women were at greater risk of variation from evidence-based guidelines. Further research is needed to understand why gender differences exist in ED ACS care.
© 2017 College of Emergency Nursing Australasia. Published by Elsevier Ltd. All rights reserved.

Introduction

Coronary heart disease remains the single leading cause of death for women and men in Australia, and a leading cause of disability [1]. Around 54,000 acute myocardial infarctions (AMI) are experienced by Australians each year, which equates to one every 12 minutes [2]. An Australian dies every 27 min due to an AMI [2]. Acute coronary syndrome (ACS) is a spectrum of coronary heart disease which includes AMI and unstable angina [3]. Furthermore, ACS is the most burdensome disease in terms of Australia's annual health costs, with combined direct and indirect costs estimated to have exceeded $13 billion in 2010–11 [4].

Substantial evidence informs the treatment of ACS [5]. Comprehensive early access to evidence-based practice of ACS improves patient outcomes [6], such as reduced mortality and likelihood of subsequent ACS events [7]. Despite agreement regarding appropriate evidence-based practice for ACS and high levels of awareness of current guidelines by clinicians [8,9], poor adherence to ACS guidelines has been reported in Australia [8]. Nearly 40% of Australian patients with ACS do not receive recommended evidence-based practice [8], reducing the quality of their care and ultimately patient safety. It has been observed in numerous international studies [10,11], and more recently in Australian studies [12], that women are provided proportionately fewer guideline based therapies for ACS than men [13,14]. However, this is difficult to interpret given that women's ACS management is not usually reported separately to that for men, who experience ACS more frequently than women. [15] Hence, it is possible the figures may camouflage the true state of women's access to evidence-based ACS practice.

The inaugural Guidelines for ACS management in Australia were released by the National Heart Foundation of Australia (NHFA) and the Cardiac Society of Australia and New Zealand (CSANZ) a decade ago, [16] with subsequent addenda published in 2008 and 2011 [17,18]. These ACS Guidelines have recently been replaced by the 2016 NHFA and CSANZ Australian Clinical Guidelines for the Management of ACS [19]. The 2016 ACS Guidelines (hereafter, the 'ACS Guidelines') represent an extension and update of strengthened evidence underpinning previous versions and are designed to be

* Corresponding author at: Deakin University Centre for Quality and Patient Safety Research, Faculty of Health, Geelong, VIC, 3220, Australia.
E-mail address: lisakuhn@deakin.edu.au (L. Kuhn).

http://dx.doi.org/10.1016/j.aenj.2017.02.002
1574-6267/© 2017 College of Emergency Nursing Australasia. Published by Elsevier Ltd. All rights reserved.

Please cite this article in press as: Kuhn L, et al. Effect of gender on evidence-based practice for Australian patients with acute coronary syndrome: A retrospective multi-site study. Australas Emerg Nurs J (2017), http://dx.doi.org/10.1016/j.aenj.2017.02.002

read in conjunction with the ACS Clinical Care Standards [20]. Both the inaugural and current ACS Guidelines [16,19], which include preferred maximum timeframes of 90 minutes from first clinical contact to reperfusion treatment are consistent with major international guidelines for management of ACS [21,22].

The latest ACS Guidelines [19] recommend patients arriving at an emergency department (ED) with chest pain be allocated Australasian Triage Scale Category 2 at triage (to have assessment commenced within 10 min of arrival). As with past ACS Guidelines [16], the current ACS Guidelines suggest the first electrocardiograph (ECG) should be performed and interpreted within 10 min of first clinical contact [19]. Blood biomarkers for myocardial damage (Troponin I or T are preferred) should be drawn and sent for testing upon ED arrival. Guidelines for preferred admission ward are not provided, although patients with ongoing symptoms, subsequent troponin elevation or at low risk of arrhythmias, should receive 24 h of cardiac monitoring or be monitored until successful revascularisation has occurred [19](p. 932). Patients who are at increased risk of arrhythmias or with prior arrhythmias should be considered for more than 24 hours of monitoring [19]. This will usually require patient admission to specialist inpatient units such as coronary care and intensive care where cardiac monitoring is routinely provided. Previous research has found these units afford greater patient safety in ACS than general medical wards [23–25].

The ACS Guidelines also highlight consideration of specific patient cohorts, such as women, in whom atypical presentations are reportedly more common [19]. It has been widely reported that women with ACS tend to be older [10,26], and more often present with atypical ACS symptoms compared to men [27]. Women attending the ED report chest pain less often than men [14,27], which has been blamed for delayed diagnosis and reduced access to pharmacological and interventional management [28,29]. Reduced access to evidence-based management may have led to more adverse outcomes in women than men, such as higher inhospital mortality [13,14,30].

Although the ACS Guidelines acknowledge women's tendencies to exhibit atypical presentations and adjust ST-segment elevation evaluation on an ECG according to patient gender, neither past nor present Australian ACS Guidelines and ACS Clinical Care Standards are gender specific [16,18–20]. Hence, evidence-based ACS care should apply equally to women and men.

Recent Australian research has demonstrated differences in the early ACS care between women and men in terms of triage category allocation [31], and access to reperfusion therapy [12]. Furthermore, women have more inhospital deaths for ST-segment elevation AMI than men (9.1 vs 4.2%; $p < 0.001$) [12]. These disparities were shown using administrative data [12,31], thus the researchers could not determine if gender differences in ACS care were related to issues such as delayed presentation, comorbid disease or absence of chest pain on arrival at hospitals. The quality of ACS ED and inhospital clinical care in Australia has not been evaluated with patient-level data from a gender perspective against ACS Guidelines. The aim of this study was therefore, to evaluate if ACS care was different in women and men who were admitted to hospital through an ED against Australian ACS Guidelines.

Methods

Design

A retrospective descriptive approach was used to address the study aim. Ethics approval was obtained from Deakin University (Approval: DUHREC 2015-246) and the Eastern Health Human Research Ethics (Approval: LR 97/2015) Committees.

Setting

The study setting was Eastern Health, a major health service in Victoria, Australia. Eastern Health has three acute care sites with emergency departments (EDs) and serves a diverse population of approximately 750,000 people, with its three EDs treating around 143,000 presentations annually [32]. One of the hospital sites has a 24-h cardiac catheter laboratory service [32].

Sample

The study population was a random sample of 288 adults stratified to ensure equal numbers of each gender admitted to Eastern Health via any one of its three EDs and discharged with a hospital diagnosis of an ACS from January 1st 2013 to June 30th 2015. Patients who developed ACS symptoms during hospital admission were excluded. Patients who arrived from or were discharged to another health service were excluded from this study as their complete medical records could not be accessed. Diagnosis of AMI or unstable angina was defined using the following International Classification of Diseases-10th Edition-Australian Modification (ICD-10-AM) codes: ST-segment elevation myocardial infarction (STEMI), I21.0, I21.1, I21.2, I21.3; non-ST-segment elevation myocardial infarction (NSTEMI), I21.4; and unstable angina pectoris, I20.0. The sample was randomly selected from more than two years of patient data (January 2013–June 2015) to counteract any potential confounders such as seasonal variation and peaks and troughs in ED demand.

A total of 3331 (1398 women and 2210 men) patients met the study inclusion criteria. The sample included 288 randomly selected patients: 144 women and 144 men.

Data collection

The following data were collected by retrospective medical record audit: i) *patient characteristics* (age, gender, usual accommodation, reason for ED presentation, ACS diagnosis, duration of symptoms, mode of arrival, advanced treatment directives, preferred language); ii) *ED and inhospital management* (inter-hospital transfers to catheter laboratory within the same health service, triage category allocation, time to first ED ECG, time to, and access to revascularisation, admission unit (specialist or general)); and iii) *patient outcomes* (ED and hospital length of stay, ED or inhospital death).

Data were collected from the hospital records using the ICD-10-AM codes for STEMI, NSTEMI and unstable angina. The ACS Guidelines [19] use the terms high-, intermediate- and low-risk NSTEACS (non-ST elevation acute coronary syndrome) to further differentiate these ACS diagnoses. All NSTEACS risk levels were coded as NSTEMI or unstable angina as they appeared in the patient health records in the current study because NSTEACS is not a term routinely used in Victorian government healthcare coding.

Data analysis

Study data were analysed using SPSS Version 23.0 [33] and summarised using descriptive statistics. Where data were not normally distributed, medians and interquartile ranges (IQR) are presented. Relationships between variables were examined using Chi-Square and Mann Whitney *U* test (nonparametric data), and *t*-tests (parametric data) where appropriate. Statistical significance was indicated by *p* values of less than 0.05. All tests were two-tailed.

Please cite this article in press as: Kuhn L, et al. Effect of gender on evidence-based practice for Australian patients with acute coronary syndrome: A retrospective multi-site study. Australas Emerg Nurs J (2017), http://dx.doi.org/10.1016/j.aenj.2017.02.002

Download English Version:

https://daneshyari.com/en/article/5562777

Download Persian Version:

https://daneshyari.com/article/5562777

Daneshyari.com