Role of cardiac rehabilitation

by Noeleen Fallon and Shirley Ingram

The burden of cardiovascular disease is one of major concern to patients and health professionals alike. Although mortality rates in coronary heart disease continue to fall in Western Europe, the prevalence of patients with established disease continues to rise. This is largely due to improvements in the prognosis and treatments of CHD and an increasing ageing population. Cardiac rehabilitation is a process by which patients with cardiovascular disease are encouraged and supported by a multidisciplinary team of health professionals, to achieve and maintain optimal physical and psychosocial health. Cardiac rehabilitation (CR) programmes were established to educate the patient about cardiovascular risk and to encourage them to make necessary lifestyle changes. Meta-analyses of trials on cardiac rehabilitation demonstrate that all cause mortality is reduced by 27% and cardiac death by 31%. They also report benefits in terms of reduced recurrent events and readmission rates.

Aims of cardiac rehabilitation

Cardiac rehabilitation aims to restore a person to health and return them to their rightful place in society. This occurs with exercise training to improve exercise capacity, thereby enabling patients to improve their level of fitness and increase collateral blood supply to the heart muscle. By educating patients about the risk factors for cardiovascular disease, they can make important lifestyle changes, enhance the quality of their lives and reduce the risk of future coronary events. As nurses are in continuous contact with patients and their families they are ideally placed to co-ordinate and deliver these programmes in conjunction with multidisciplinary team members. Nurse-patient relationships have been described as therapeutic and thus may have the potential to impact favourably on patient outcome.

But what about foreseeable problems and the potential for complications post myocardial infarction (MI), percutaneous transluminal intervention (PCI) and coronary artery bypass graft (CABG)? The cardiac rehabilitation staff should be alert to recognise changes in patients’ clinical status and be prepared to intervene accordingly. The signs and symptoms of a changing clinical status may also be an impending emergency or cardiovascular complication, particularly as more patients of a higher risk category are entering the CR programme.

Patient problems in phase three

Over a one-year period, the authors analysed patient problems that occurred during phase three of the CR programme in the Adelaide and Meath Hospital (AMNCH), Tallaght, Dublin. The study was conducted retrospectively. A total of 223 patients attended phase three cardiac rehabilitation. Of these, 84 patients presented with symptoms or developed problems (37%), 67 male (80%) and 17 female (20%). The problems were documented and treated accordingly by the rehab staff or referred to the nurse-led CR clinic for investigations and treatment. Medical staff reviewed patients in the CR department if requested to do so. The multidisciplinary team were also involved in diagnosis, treatment and follow up.

At the CR department in Tallaght, nursing care is provided by autonomous experienced nurses who are instrumental in planning and providing high quality care and evidence based practice. Nursing staff and a senior physiotherapist are trained in Advanced Cardiac Rehabilitation.

The Cardiology Module to date has focused on:
- Cardiac risk protection in people with type 2 diabetes, drawing on new international guidelines
- Women and stroke, outlining risk factors, including gender-specific risks.

This month we focus on cardiac rehabilitation programmes and how problems and complications post-cardiac events can be detected, managed and treated effectively through such programmes. The article reports on the management of phase 3 patients and covers clinical problems encountered in a nurse-led cardiac rehabilitation clinic.

Phases of cardiac rehabilitation

- Phase 1: The inpatient stay
- Phase 2: The immediate post-discharge period until patient commences phase 3
- Phase 3: The exercise and education programme post-discharge
- Phase 4: The long-term maintenance period

Keeping abreast of developments in an ever-changing health service

Continuing Professional Development is essential for nurses and midwives practising in an ever-changing healthcare environment. With this in mind WIN has expanded its Continuing Education section for 2006, focusing on two clinical areas which impact on all areas of the Irish health service—namely cardiology and diabetes.

Cardiovascular disease and type 2 diabetes can be considered the most significant public health problems that we are facing the prospect of a reduction in life expectancy if the dual problem is not tackled.

Table 2

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This module is supported by MSD Ireland (Human Health) Ltd.
Cardiac Life Support (ACLS) as recommended by the Irish Association of Cardiac Rehabilitation Guidelines. They are competent to deal with a patient presenting with chest pain and to assess if there are any significant changes on the electrocardiogram (ECG).

In this study, 29 patients presented with chest pain, 14 (48%) of which were assessed and managed by the CR staff without medical intervention. A further five patients (17%) were assessed medically and admitted for further assessment and investigations, such as angiogram. Three patients (10%) required routine admission for cardioversion.

Benefits of a nurse-led clinic

Nurse-led clinics for secondary prevention of CHD may improve clinical outcomes. Such a clinic is held weekly as part of the CR programme. Here patients can have a more detailed assessment and medical review if required. Nursing staff can request further cardiology investigations and results can be followed up at the clinic, with changes in medication perhaps. This clinic is an efficient form of patient management as patients are seen quickly as problems arise and avoid having to wait for an appointment for the general cardiology clinic.

Direct referral

In this study eight patients were referred directly to the CR clinic for follow up of cardiology test results by 24-hour Holter or ambulatory blood pressure monitoring (ABPM) or review of anti-angina medication. Seventeen patients were presented with hypertension (20%). Nurses requested ABPM for nine (53%) of these patients and 11 had anti-hypertensive medication recommenced or dose increased (65%). Two patients required admission to the day ward for BP investigations (12%).

The multidisciplinary team meets monthly to discuss patients currently attending CR. At this stage, CR staff have completed an assessment of the patients and have knowledge of their lipid profile, blood sugar level, blood pressure, body mass index (BMI), waist circumference and hospital anxiety and depression scale (HADS). By direct referral to other specialties, such as a psychologist or dietician, the patients once again avoid long delays before being seen. We have an established protocol for nurses to refer patients to the dietician and psychologist.

A nurse to nurse referral to the diabetes day centre is in place for patients with diabetes who have lapsed, have erratic blood sugars or require further education. This system was originally established in 2001, when people newly diagnosed with diabetes were discovered in CR on a follow up study post discharge from coronary care.

Follow up

On completion of the programme the patients are reassessed and referred back to their GP in the community if possible, to reduce the excessive numbers at cardiology clinics. If there are specific problems that require follow up, they are given an appointment for the CR clinic prior to discharge back to their GP.

The decreasing length of hospital stay for most cardiac patients results in a greater need for adequate and reliable follow-up. Cardiac rehab staff are in a unique position to respond to this challenge and offer such a service. Psychological function, quality of life, social recovery and return to work are all enhanced by patients’ participation in a CR programme.

The authors demonstrate that the problems and complications post cardiac events can be detected, managed and treated efficiently through such a programme. As clinical care of CHD is costly and prolonged, CR can produce financial benefits through reduced readmission rates and increased rate of return to work.

Cardiac rehabilitation acts as the stepping stone until the patient bridges the hospital/community divide and returns to the care of their primary physician.