

Health risks of coronary heart disease: literature review



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Coronary Heart Disease (CHD) is the main cause of death and disability in the United Kingdom (UK) and the sole most frequent cause of early death. In spite of a drop in CHD mortality in recent years, there are approximately 120, 000 deaths per year in the UK making the quotient amongst the uppermost compared to the rest of the world (British Heart Foundation (BHF), 2003). Additionally, more than 1. 5 million people in the UK are living with angina and 500, 000 have heart failure (Department of Health (DH), 2004) commonly, although not wholly, caused by CHD. The World Health Organization (WHO) has forecast that by 2020, CHD will be the principle cause of death and morbidity throughout the world (Tunstall-Pedoe, 1999).

However, not only does CHD affect the increasing rates of early death, it can also cause individuals to experience “ long-term chronic health problems”.

There are numerous different kinds of cardiac illnesses that include: “ congenital abnormalities, heart rhythm disturbances, valvular disease, acute coronary syndromes and heart failure” (Jones, 2003). It is important to note that the latter two conditions are more likely to affect older people and are the most prevalent among those with CHD (Rawlings-Anderson and Johnson, 2003). This essay will critically analyse the literature pertaining to the one of the most relevant health risks of CHD, that of chronic heart failure. The literature to be reviewed will analyse the issues that affect self-care in heart failure.

To enable this review a comprehensive search of relevant databases such as CINAHL and the British Nursing Index was undertaken. Similarly, a thorough search of relevant nursing journals such as Nursing Standard, Nursing Times, British Journal of Cardiac Nursing, and British Journal of Nursing was also

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carried out. Also a general internet search using the keywords CHD, BHF, long-term chronic health problems, acute coronary syndromes, chronic heart failure, prevalence and associated factors was also employed.

The rationale for choosing heart failure is that every year 63 000 new cases are reported in the UK and it is increasing in prevalence and incidence affecting more than 900 000 people per annum (Petersen et al, 2002). Heart failure presents a major predicament with regard to its effect on the individual sufferers, their significant others and also on healthcare measures and supply. People with heart failure by and large suffer from recurrent episodes of acute exacerbation of their symptoms. As a consequence, admission to hospital is great and accounts for approximately 5 percent of all admissions to general medical or elderly care hospital beds within the UK. Readmission rates are as high as 50 percent in the six months following the original stay in hospital (Nicholson, 2007). It is posited that experience of illness and grim clinical outcomes are fundamentally as a result of uncontrolled symptoms through non-adherence to suggested medication and lifestyle modifications (DH, 2000a).

There are various current Governmental guidelines that expound the virtues of self-care of long-term conditions. However, The Department of Health's (DOH, 2006) Supporting people with long-term conditions to self-care: A guide to developing local strategies and practices guide proposes that self-care is any actions or behaviours that help individuals to cope with the effects that their long-term condition has on their activities of daily living. These actions or behavioural changes hope to empower sufferers to deal

with the emotional aspects, adhere to treatment routines and maintain the important aspects of life such as work and socialising.

A thorough research of the literature surrounding self-care for long-term conditions such as heart failure has shown that several factors are in existence that influence self-care in heart failure. These include: socio-economics, condition-related, treatment related and patient related factors (Sabate, 2003, Leventhal et al, 2005).

Socio-economic standing, degree of education, monetary restrictions and social support have all been emphasised as effecting self-care in patients with heart failure.

Low socio-economic status and lack of education have been established to be significant factors relating to non-adherence and inadequate self-care (Gary, 2006; Van der Wal et al, 2006). Wu et al (2007) found that those on minimal incomes were regarded as high risk for non-adherence to medication. While a superior level of education was also found to be a major predictor of adherence in research papers by Evangelista and Dracup (2000) and Rockwell and Riegel (2001).

Financial restraints connected to the price of medication have been acknowledged as a hindrance to adherence (Evangelista et al, 2003; Horowitz et al 2004; Wu et al, 2008). However, these reports have been performed in the United States (US) and in the main correlate to lack of medical insurance under a Medicaid scheme. It is therefore suggested that additional research is required to ascertain whether the price of medication notably impacts on adherence in the National Health Service (NHS).
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A number of studies have observed that social support is an important issue in influencing self-care (Ni et al, 1999; Artininan et al, 2002; Scotto, 2005; Schnell et al, 2006; Wu et al, 2008). Ortega-Gutierrez et al (2006) found a significant contrary relationship between perceived level of social support and level of self-care. Similarly, Chung et al (2006a) examined the bearing of marital status on medication adherence and found that married patients had considerably enhanced adherence to medication than those living by themselves.

Patients with a partner took more doses, were aware of the importance of taking medications on time and were more knowledgeable about names and doses. By contrast however, Evangelista et al (2001) found no association between social support and adherence to medication and lifestyle behaviours, although the authors suggest this may be due to the high levels of social support reported in this sample.

The method of social support has been illustrated in numerous qualitative studies. Stromberg et al (1999) explained the important role spouses performed in medication

management such as giving their partners their tablets at prescribed times. Wu et al (2007) found that a supportive family helped with medication adherence by collecting medications from the pharmacy and filling dosage boxes. These authors deduced that those devoid of the effective commitment of relatives in self-care, some patients would have trouble sticking to their drug routine. The high intensity of social support was also

shown to be a feature of patients considered to be knowledgeable in self-care (Riegel et al, 2007a).

A number of factors relating to specific aspects of the condition have been described in the literature. These include the nature and severity of symptoms, functional ability, prior experience, the presence of comorbidities and cognitive functioning. Severity of symptoms and functional ability are important indicators of behaviour. Symptom

severity was an independent predictor of self-care in a study by Rockwell and Riegel (2001). Wu et al (2007) found that patients with poor functional ability as measured by the New York Heart Association functional classification (NYHA) had poorer self-care.

However, prior experience of hospitalisation may also affect self-care with patients having prior hospitalization episodes more likely to carry out self-care effectively. It is suggested that this may be due to a high level of motivation to stay well and avoid hospitalization. Level of experience or time since diagnosis may also be important factors in determining self-care ability (Carlson et al, 2001). Although the precise mechanism is unclear, it may be related to an enhanced ability to recognise changing symptoms and the use of tried and tested strategies in response to symptoms. The presence of comorbidities, especially if symptoms are similar to those of heart failure, makes the recognition and subsequent management of symptoms difficult. Chriss et al (2004) found the number of comorbidities to be a significant predictor of self-care, those with few comorbidities having enhanced self-care.

Self-management requires patients to make decisions and take actions in response to recognition of symptoms. However, cognitive deficits in heart failure have been well documented (Ekman, 1998 and Bennett, 2003). It is estimated that between 30 percent and 50 percent of heart failure patients have cognitive impairment (Leventhal et al, 2005). Wolfe et al (2005) found specific cognitive deficits of memory, attention and executive functioning, which were not related to illness severity. These deficits may impair the perception and interpretation of early symptoms and reasoning ability required for self-management. This is supported by Dickson et al (2007b) who found a correlation between impaired cognition and individuals inconsistently demonstrating effective self-care behaviour. Paroxysmal nocturnal dyspnoea, common in heart failure, also deprives the body of sleep and has consequences for cognitive functioning and decision-making (Trupp and Corwin, 2008). Perhaps as a result, sleepiness during the day has also been linked to poor self-care (Riegel et al, 2007b).

Adherence to medication and lifestyle guidance has been linked to treatment-related factors such as the effects of medication or treatments, the intricacy of regimes and numerous changes in treatment. Riegel and Carlson (2002) and Van Der Wal et al (2006) found that adherence to a low sodium diet was hindered by the foul-tasting low salt food and problems when eating out in a restaurant. Limiting fluid intake was also controlled by thirst. Bennett et al (2005) found that the taking of diuretics disrupted sleep and this was a significant factor in non-adherence. Concerns about medication side effects are also of major concern to patients (Stromberg et al, 1999; Riegel and Carlson, 2002). The complexity of the treatment regime

as indicated by a high number of administration times, for example, has been shown to decrease medication adherence (Riegel and Carlson, 2002; George et al, 2007; Van der Wal et al, 2007).

It is suggested that individual patient characteristics have a major part in self-care behaviour. Age and gender may have some bearing on behaviour although there is relatively limited evidence. The presence of depression also had a negative impact on self-care ability.

Chung et al (2006b) examined gender differences in adherence to a low salt diet in patients with heart failure. They found that adherence was higher in women. Women were also further capable of making nutritional decisions. This is in contrast to Gary (2006) who researched the self-care routine of women with heart failure and established that a only a small number of women in this sample abided by the suggested low salt diet, exercised or weighed themselves daily. The only behaviour that was practiced without fail was taking medication. Hardly any women recognised symptoms of heart failure or checked and monitored their symptoms on a regular basis.

Chriss et al (2004) found that males and increasing age were separate, significant predictors of self-care. However, the relationship between age and self-care behaviour continues to be ambiguous. Evangelista et al (2003) found that elderly patients with heart failure had better adherence to medication, diet and exercise guidance than younger patients. Notably, depression influences the capacity to perform self-care behaviours successfully. There appears to be a preponderance of people who have heart failure who are also depressed. Approximately, 11 percent of out-patients

and over 50 percent of hospitalised patients with heart failure are depressed (Leventhal et al, 2005). Depression has been revealed to be an important aspect predicting self-care (Dickson et al, 2006; Lesman-Leegte et al, 2006; Riegel et al, 2007b). DiMatteo et al (2000) declares that non-adherence is three times higher in depressed patients compared with those who are not depressed. The coexistence of depression in patients with heart failure makes them vulnerable to inadequate self-care.

CHD is a major cause of death and disability in the UK and is also the main cause of premature death. CHD also causes its sufferers to have long-term chronic comorbidities. One of those comorbidities is heart failure. Heart failure is increasing in prevalence and incidence every year in the UK. It not only affects the patient but also their family. Similarly, the incidences of heart failure have a massive impact on health care provision and resources. This is a consequence of the frequent acute exacerbations of the patient's symptoms. Self-care of long-term conditions such as heart failure appear to be the Government's current preoccupation and guidelines exist that offer strategies to those with long-term conditions that may help sufferers cope with the impact that their illness has on their everyday lives. However, evidence exists that show that there are certain factors that act as barriers and influence self-care in heart failure. These factors include lack of education, financial constraints and social support. Cognitive ability, modification of life-styles, relationships, gender, age and mental illness have all been found to have an impact on the self-care of heart failure particularly with regards to medication adherence. There appears to be a dearth of research undertaken in the UK on the issues influencing self-care in heart

failure. Therefore, it is recommended that further research is undertaken in the UK, as the health care and welfare provision is vastly different from that in the US. This may result in very dissimilar research outcomes.

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