

# Study completed on congestive heart failure nursing essay



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Congestive heart failure due to left ventricular systolic dysfunction (LVSD) is an increasingly prevalent and progressive condition that leads to disability and death, placing a significant burden on patients, carers and health care providers. Debilitating clinical symptoms such as breathlessness, fatigue, and fluid retention usually develop over time and are associated with a reduction in functional capacity (National Collaborative Centre for Chronic Conditions, 2006). Coronary heart disease is the most common cause of heart failure; however there are other nonischaemic causes such as hypertension, valvular disease, thyroid disease, excess alcohol or myocarditis (Scottish Intercollegiate Guidelines Network (SIGN) 2007). The paper briefly discusses about “ Congestive Heart Failure” and analyses its medication and treatment.

Congestive heart failure is the only cardiovascular disease increasing in incidence. A combination of improved cardiological treatments and risk factor trends are thought to be responsible for this (Bryant et al, 2007). It is estimated that 66 000 new cases of heart failure are diagnosed in the UK every year and that 912 000 of the population aged 45 years and over have definite/probable heart failure (Bryant et al, 2007). Life expectancy is increasing and the incidence of heart failure in the 75-84 years age group is 7%, and 15% in those aged 85 years and above (British Heart Foundation, 2007).

## Discussion

### Heart Failure Progression and Mortality

The British Heart Foundation (BHF) estimates that 4% of deaths each year in the UK are attributable to heart failure (all forms) and that 40% of deaths occur within 1 year of diagnosis (BHF, 2006). Patient symptoms can vary and can often be a combination of breathlessness, peripheral oedema and extreme fatigue. The severity of these symptoms is assessed using the New York Heart Association Classification (NYHA), the most widely-used functional capacity grading tool as recommended by SIGN (2007).

## Treatment

Major clinical trials involving a combination of ACE inhibitors, beta blockers, angiotensin II receptor blockers, aldosterone receptor blocker and diuretics, titrated at timely intervals until either a target or maximally-tolerated dose is reached, have improved clinical knowledge and management of heart failure. Specific guidelines relating to all of the above and including non-pharmacological measures have been recommended by the National Institute for Health and Clinical Excellence (National Collaborative Centre for Chronic Conditions, 2006) and SIGN (2007). Optimal management of heart failure patients can be difficult to achieve and requires skilful patient assessment and intensive monitoring. Lehne, (2007) found that nurse-led heart failure management programmes proved successful and cost-effective through their ability to co-ordinate and implement evidence-based care. This reduced the financial impact on the health care system, estimated at between 1-4% of the total NHS expenditure (Lehne, 2007). Gaps identified Johnson and Lehman (2006) highlight heart failure as having a worst survival rate than most of the common cancers and Aldred (2009) states that

patients have a poorer quality of life than those with most other chronic

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progressive diseases. The National Council for Palliative Care (2005) also states that patients dying from advanced heart failure still remain disadvantaged compared to their peers suffering from cancer in terms of symptom control management, communication and access to palliative care support networks.

### Why Is This?

Health professionals caring for dying patients with heart failure continue to face a number of practical problems. For example, the disease trajectory of congestive heart failure is ill defined; episodes of acute decompensation generally increase in frequency and severity until one such episode proves fatal, and there remains a significant risk of sudden death-50% at all stages of the disease (Scottish Partnership for Palliative Care (SPPC), 2008). In addition there is little robust end-of-life research about: functional status, quality of life, symptom prevalence or severity, and decisions about treatment preference. Studies that do exist demonstrate high rates of unmet needs in the areas of symptom management, communication, decision making, emotional support, co-ordination of care and quality end-of life care (Hancock et al, 2007; Anderson et al, 2006; Pantilat and Steimle, 2007).

Specific knowledge gaps among health professionals include recognizing vulnerable patient groups, advanced communication skills and advanced care planning. Although it is widely recognized that most heart failure nurses work at a specialized level providing structured supportive care from diagnosis onwards, difficulties still arise around discussion and integration of end-of-life care priorities. For many heart failure nurses the opportunity to

enroll in advanced communication or palliative care training events to support role development in this area has not been possible (Lehne, 2007). However, supporting these learning needs is now being addressed nationally through the BHF and a number of higher educational institutions.

## Palliative Care

Palliative care is defined as an interdisciplinary team approach to optimizing symptom management and enhancing quality of life by considering physical, psychosocial and spiritual needs as well as skilful communication in relation to prognosis, treatment and issues of importance to both patient and carers. Barriers to the integration of palliative care in heart failure care are still very evident today. There is still a reluctance to recognize high-risk patients, the medical model of intervention still mainly focuses on the struggle and maintenance of vital functions rather than the human suffering associated with that maintenance (Copstead, 2010), and gaps in knowledge often lead to poor communication and co-ordination of care that very often results in inappropriate hospital admission (Millerick and Blue, 2007). Key policy recommendations Key policy initiatives throughout the UK recommend integrating palliative care into mainstream health care for patients and carers living with life-limiting disease such as heart failure (Scottish Government, 2007; Department of Health, 2008)

The Scottish Partnership for Palliative Care (SPPC) published a report in March 2008 entitled 'Living and Dying with Advanced Heart Failure: A Palliative Care Approach'. The main areas for action from all of these initiatives are reflected in the following recommendations (SPPC, 2008): All

patients with advanced heart failure should be provided with both optimum cardiological management (drugs and devices) and supportive/palliative care; Health care teams should adopt a holistic approach to care, ensuring optimum management of physical, social, psychological, emotional and spiritual needs; Sufficient opportunities should be given to patients and carers to discuss any issues important to them at their own pace and the time of their choosing; Collaborative working between different health care teams should be implemented; Arrangements for appropriate end of life care should be put in place; Reciprocal educational and training opportunities should be provided to all health and social care professionals to enhance understanding of cardiological and general palliative care; Further palliative care research should be undertaken to determine best practice guidelines

Identification of high-risk patients It is often difficult to predict the individual prognosis of heart failure patients, as most patients will at some point during their illness trajectory experience symptoms that may appear resistant to adjustment of cardiological therapy (Copstead, 2010). It is important however to emphasize that optimum cardiological management (both drugs and devices) is of huge significance to heart failure patients as it can have a major effect on their survival and symptom control (SPPC, 2008). Therefore when identifying appropriate patients it is essential to ensure that heart failure medication has been optimized.

### Collaborative working

Collaborative working with key professionals continues beyond the discussion, assessment and documentation and is continued with the patient and carer during a joint home visit, normally involving a heart failure and <https://assignbuster.com/study-completed-on-congestive-heart-failure-nursing-essay/>

palliative care specialist nurse (Lehne, 2007). During this visit a holistic assessment of the patient's and carer's needs is carried out ensuring that physical, social, psychological, emotional and spiritual needs are addressed. This collaborative style of working whereby two specialists are working towards the same goals leads to an informal transfer of knowledge and skills. It is important that during this consultation realistic facilitation of care priorities is discussed and implemented to avoid patient and carer disappointment. An example of this would be a patient requiring a hospital admission for acute symptom management, particularly in the absence of robust community diuretic protocols.

Rapid assessment, appropriate treatment and intervention should always be implemented, avoiding inappropriate investigations and lengthy delays as far as possible. Once the patient is stabilized the fast track process should endeavour to respect the wishes of the patient and carer and where appropriate home discharge should always be prioritized over a hospital admission. However, if a hospital admission cannot be avoided the patient should be fast tracked to an appropriate bed area, preferably one that is familiar to the patient and family, and every effort should be made to ensure that the hospital stay is as short as possible.

### Mediation Analysis

Studies combining ACE inhibitors and A2RAs have given varied results (Hibbert, 2008). In general, ACE inhibitors should be seen as the first choice, and the A2RAs should be reserved for patients who are intolerant of ACE inhibitors because of cough (Anderson, 2007). Concerns have recently been

expressed that this group of drugs may increase the risk of myocardial infarction.

Studies combining ACE inhibitors and A2RAs have given varied results. In general, ACE inhibitors should be seen as the first choice, and the A2RAs should be reserved for patients who are intolerant of ACE inhibitors because of cough (Hibbert, 2008). Concerns have recently been expressed that this group of drugs may increase the risk of myocardial infarction. Clearly no treatment, however successful, will be widely accepted unless it is also safe and easy to use. It is here that there has been concern about ACE inhibitors, largely based on widely publicised reports of severe hypotension and renal dysfunction in early studies with large doses of these drugs in severely ill patients (Hibbert, 2008). This experience has left a residual reluctance, especially among non-cardiologists, to use ACE inhibitors in CHF. Thus, concern about frequent or serious adverse effects in mild to moderate CHF should not be a reason for depriving patients of life-prolonging therapy (Anderson, 2007). The message from the trials is that all patients with CHF due to myocardial systolic dysfunction should be given an ACE inhibitor; there is no reason to suppose that one ACE inhibitor would confer any special benefit over another. To prescribe a diuretic and delay ACE inhibitor therapy is no longer supportable (Anderson, 2007).

Generally ACE inhibition results in a diminished systemic vascular resistance, blood pressure, preload and afterload. (Aldred, 2009) ACE plays a role in the degradation of bradykinin. There is evidence that ACE inhibitors are responsible for the inhibition of this pathway resulting in an increased level of bradykinin, a naturally occurring vasodilator (Weir, 2006). The degree of

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hypotensive response does not usually correlate with pre-treatment levels of plasma rennin activity.

A reduction in blood pressure because of ACE is not usually accompanied by changes in heart rate, pressor sensitivity to exogenous norepinephrine sensitivity, (Aldred, 2009) although investigators have proposed that ACE inhibitors act on baroreceptors and block the production of angiotensin II within the medulla vasomotor centre (Weir, 2006). In patients with CHF, the benefits of ACE inhibitors are related to increases in cardiac index and stroke volume, with resultant decreases in pulmonary-capillary wedge pressure mean arterial pressure and systemic vascular resistance; these changes in turn decrease both preload and afterload. Microvascular endothelial dysfunction associated with atherosclerosis improves with the administration of ACE inhibitors. Weir (2006) showed that in adults with coronary atherosclerosis, a 10-minute intra-arterial infusion of enalaprilat augmented bradykinin- and acetylcholine-, but not sodium nitroprusside-, vasodilator responses, as confirmed by decreases in femoral vascular resistance index values over baseline. This indicates that ACE inhibition selectively improves endothelium- dependent vasodilation. In the second phase of the study, intra-arterial administration of a nitric oxide synthesis inhibitor blocked both acetylcholine- and bradykinin-induced vasodilator responses, suggesting that ACE inhibitor augmentation may be mediated by increased nitric oxide activity. It is also suggested that ACE inhibition may reduce the elevated procoagulant activity associated with acute MI (Weir, 2006).

Decreased aldosterone production usually causes an increase in plasma potassium concentrations of patients treated with ACE inhibitors. Millar et al. <https://assignbuster.com/study-completed-on-congestive-heart-failure-nursing-essay/>

showed that significant natriuresis occurred within 24 hours of the first dose of enalapril (the oral ethylester of enalaprilat) or lisinopril, although this effect did not persist after 8 days of therapy (Selman, 2007). Renal blood flow is regulated by the interaction of angiotensin II-mediated vasoconstriction and prostaglandin-related vasodilation. ACE inhibitor therapy, increases kidney perfusion and decreases renal vascular resistance, as they induce vasodilation in both afferent and efferent arterioles. Although anecdotal data exists regarding use of ACE inhibitors in acute settings, their use is not recommended to stabilise acutely ill patients in the ICU or for those with pressor support requirement (Selman, 2007).

Although the incidence of symptomatic hypotension during administration of ACE inhibitors in healthy patients is low, in patients with left ventricular dysfunction, hypotension following a dose of enalapril was the most common (2%) adverse effect noted during the first 2-7 days (Selman, 2007). Other common adverse effects of enalapril include dizziness, headache, fatigue, cough, dyspepsia, hyperkalaemia, elevated blood urea nitrogen, creatinine and diarrhea. Potentially serious adverse effects include angioedema, hyperkalaemia, hepatotoxicity, pancreatitis agranulocytosis and renal failure in the presence of bilateral renal artery stenosis.

## Conclusions

Defining the transition from supportive cardiological management of heart failure to end-of-life palliative care is both complex and daunting for heart failure professionals. However, delay in recognizing this transition has resulted in unmet patient and carer needs for far too long. We need to

accept that the course of congestive heart failure is both progressive and unpredictable, despite optimal cardiological treatments. As patients progress to congestive heart failure, with refractory symptoms it is critical that heart failure professionals recognize the vital role they have in co-ordinating and engaging in a collaborative and seamless approach to care. Models of care similar to the one that is outlined in this paper have the potential to provide a framework to support heart failure professionals throughout the UK with the translation and integration of national palliative care recommendations into mainstream heart failure programmes.