Non−Symptom-Related Factors Contributing to Delay in Seeking Medical Care by Patients With Heart Failure: A Narrative Review

SHANNON GRAVELY, PhD,[1,2,3] HALA TAMIM, PhD,[1] JUDY SMITH, BSCN,[2] TAMARA DALY, PhD,[1] AND SHERRY L. GRACE, PhD[1,2,3]

Toronto, Richmond Hill, and Ontario, Canada

ABSTRACT

Background: Delay in seeking timely medical care by patients with acute coronary syndrome and stroke has been well established in the literature, but less is known about delay in care-seeking behavior by patients with heart failure (HF). The purpose of this narrative review was to synthesize the literature regarding non−symptom-related factors that contribute to delay in seeking medical care for HF symptoms.
Methods and Results: A literature search of Scopus, Medline, and Pubmed was conducted for published articles from database inception to July 2009. Available evidence has shown that non−symptom-related factors, such as HF severity, HF history, age, and ethnocultural background, were related to delay in certain studies; however, null results have also been reported. Other non−symptom-related factors, such as male gender, initial contact with a primary care physician, arriving in the emergency department by means other than ambulance, and patient responses such as self-care, low anxiety, and hopelessness, may play a role in longer delay.
Conclusions: Although this review identified several non−symptom-related factors that may be implicated in care-seeking delay, health care professionals should be vigilant in identifying all high-risk individuals and educating them about warning signs of HF. Moreover, access to outpatient chronic disease management programs that may have potential to reduce care-seeking delay behavior should be explored. (*J Cardiac Fail 2011;17:779−787*)
Key Words: Heart failure, medical care, patient acceptance of health care, time factors.

Heart failure (HF) is a clinical syndrome characterized by inadequate systemic perfusion to meet the body's metabolic demands as a result of impaired cardiac function.[1] HF is marked by high prevalence, incidence, mortality, and morbidity rates.[2] Among the elderly, HF is the leading cause of hospitalization in the Western world.[2−7]

The course of HF is marked by frequent exacerbations that result in hospital readmissions. One-fourth of patients hospitalized for HF in the US are readmitted within 30 days of discharge,[8] with up to 50% being readmitted within 6 months.[9] HF readmissions result not only from clinical factors (such as arrhythmia or hypertension), but also from behavioral factors, such as noncompliance with diet or drug therapy[10−12] and not seeking timely medical care.[13−15]

Patient ''delay'' is defined as the amount of time between first awareness of a symptom to time of presentation for care.[13,16] HF patients report wide variations in delay, ranging from 2 hours to 7 days, from symptom onset to hospital admission.[17] Reducing care-seeking delay can result in earlier diagnosis and initiation of treatment for HF. This is associated with improved outcomes, such as shorter lengths of hospitalization, shorter stays in intensive care, lower

From the [1]York University Faculty of Health, Toronto, Ontario, Canada; [2]York Central Hospital, Richmond Hill, Ontario, Canada and [3]University Health Network Women's Health Program, Toronto, Ontario, Canada.
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Reprint requests: Sherry L. Grace, PhD, York University, Faculty of Health, Norman Bethune College 368, 4700 Keele St, Toronto, Ontario, M3J 1P3. Tel: +1-416-736-2100 x22364; Fax: +1-416-736-5774. E-mail: sgrace@yorku.ca

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mortality rates, improved quality of life, and reduced resource utilization and health care treatment costs.[18–20]

Reasons for delay in seeking care for a cardiovascular event, such as acute coronary syndrome (ACS) or stroke, have been reported in the literature.[21,22] The role of symptom-related factors associated with care-seeking delay have been reviewed in HF samples.[17] Symptom characteristics, such as dyspnea, edema, orthopnea, higher somatic awareness, higher symptom distress, nocturnal symptom onset, and pattern of symptom onset, were shown to be related to longer delay. Furthermore, cognitive responses to HF played a role in symptom appraisal. In addition, nonsymptomatic factors that contribute to delay in seeking medical care after the development of HF are identified in the literature. The present narrative review synthesizes non−symptom-related factors contributing to delay in seeking HF medical care and presents gaps and directions for future research.

Methods

A literature search of Scopus and Medline was conducted for published articles from database inception (1996 and 1950 respectively) to July 2009. Pubmed ''related article'' links was used as a complement to the other databases and was searched to identify further articles meeting inclusion criteria. The search strategy was limited to English-language studies that identified factors contributing to delay in seeking medical care for HF symptoms. Search terms included: heart failure (congestive), patient admission, patient education as topic, health care system, patient readmission, hospitalization, emergency medical services, medical care, time factors, treatment delay, prehospital delay, delay in care-seeking, decision delay, patient acceptance of health care, care-seeking behavior, and decision making. A flow chart depicting the study search and selection is presented in Figure 1.

Results

Overall, 139 published articles were identified in the literature search, and 10 were included in this review (years of study ranged from 1991 to 2006). One study included data from a duplicate cohort.[23] Table 1 summarizes the included studies. The majority of studies were cross-sectional,[12–14,23–26] 2 were qualitative,[15,27] and 1 used a mixed-methods design.[28] Four studies collected data by means of retrospective chart review,[13,14,23,24] and the other 6 studies used interviews and surveys. Five studies recruited HF patients from a single site,[12,13,15,24,27] and 4 consisted of samples derived from multiple sites.[14,25,26,28] Seven studies were conducted in the USA and 2 in Sweden. Six studies included samples that comprised acutely decompensated HF patients, 1 study included newly diagnosed and chronic HF patients,[25] and 2 studies included HF patients with a primary diagnosis of HF (acuity and chronicity were unspecified).[13,24]

Factors Contributing to Delay in Seeking Medical Care for HF

Clinical Factors. Table 2 summarizes clinical and sociodemographic factors and patient responses associated with delay by HF patients. HF severity was examined in relation to delay in 2 quantitative studies. First, in the study by Evangelista et al (2000), 753 HF patients admitted to a veterans medical center with a primary diagnosis of HF were examined.[13] The authors ascertained disease severity, according to the New York Heart Association (NYHA) functional class,[29] from hospital medical records and reported that 15% were NYHA functional class III-IV (denoting greater disease severity). Results showed that patients with a higher NYHA functional class were more likely to delay seeking treatment. Second, in Jurgens' (2006) study, NYHA functional class was ascertained from medical records for 201 HF patients from 3 USA hospitals.[26] Nearly 60% of admitted patients had an NYHA functional class of III-IV. Results showed a null effect in relation to delay.

Differing results between these 2 studies may be explained by the dissimilar samples and methodology. The Evangelista et al (2000) retrospective study included only 10 women (1.3%) recruited from a single hospital, and the Jurgens (2006) prospective study included 88 women (44%) from multiple settings. HF disease severity can differ between men and women,[30–32] which limits the generalizability of results in the former study. Moreover, the study by Evangelista et al had fewer patients with a NYHA functional class of III-IV, which may also have affected results. The mixed results could also be related to the often poor association between symptoms and severity of cardiac dysfunction in HF.[33] Finally, the NYHA classification system is subject to rater bias. It has been found that NYHA ratings may be difficult to reproduce.[34] Furthermore, the classification system does not always correlate with objective estimates of functional capacity. Further research is therefore warranted to examine the contribution of HF disease severity to delay.

There were no studies identified in this review that compared delay times between acutely decompensated HF patients and those presenting with chronic HF. One study, however, did examine if delay times differed between newly diagnosed (n = 64) and chronic HF patients (n = 148).[25] Both groups had similar sociodemographic and clinical characteristics as well as symptom profiles. Results showed no significant difference in time before hospital admission (median 7 days).

The data available on established HF as a predictor of delay are mixed. For example, a retrospective study by Friedman (1997) found that a history of HF delayed care-seeking behavior among 181 patients admitted to a single hospital in the USA.[24] In contrast, 2 other studies reported no differences in delay to hospital admission[14,25] or time until physicians were notified after symptom onset between patients with or without a history of HF.[25] In addition, Jurgens (2006) failed to find an association between a history of