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Personality disorders in heart failure patients requiring psychiatric management: Comorbidity detections from a routine depression and anxiety screening protocol

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ABSTRACT

Several international guidelines recommend routine depression screening in cardiac disease populations. No previous study has determined the prevalence and comorbidities of personality disorders in patients presenting for psychiatric treatment after these screening initiatives. In the first stage 404 heart failure (HF) patients were routinely screened and 73 underwent structured interview when either of the following criteria were met: (a) Patient Health Questionnaire ≥ 10; (b) Generalized Anxiety Disorder Questionnaire ≥ 7); (c) Response to one item panic-screener. Or (d) Suicidality. Patients with personality disorders were compared to the positive-screen patients on psychiatric comorbidities. The most common personality disorders were avoidant (8.2%), borderline (6.8%) and obsessive compulsive (4.1%), other personality disorders were prevalent in less than $<3\%$ of patients. Personality disorder patients had significantly greater risk of major depression (risk ratio (RR) 1.2; 95% confidence interval (CI) 1.2–13.3), generalized anxiety disorder (RR 3.2; 95% CI 1.0–10.0), social phobia (RR 3.8; 95% CI 1.3–11.5) and alcohol abuse/dependence (RR 3.2; 95% 1.0–9.5). The findings that HF patients with personality disorders presented with complex psychiatric comorbidity suggest that pathways facilitating the integration of psychiatric services into cardiology settings are warranted when routine depression screening is in place.

1. Introduction

The end stage of several cardiovascular diseases (CVDs) is heart failure (HF), a complex clinical syndrome characterized by dyspnea and fatigue, and underlying structural abnormality or cardiac dysfunction (McMurray et al., 2012). Depression has been extensively documented with respect to poor CVD and HF prognosis (Jiang et al., 2001; Park and Lee, 2011; Rafanelli et al., 2012; Rutledge et al., 2006) and consequently depression identification and management is emphasized in several cardiology guidelines (Ladwig et al., 2014; Lainscak et al., 2011; Lichtman et al., 2008; McMurray et al., 2012). A paucity of information exists regarding the second stage of routine depression screening, namely, comprehensive psychiatric comorbidity assessment and management (Annunziato et al., 2008; Hasnain et al., 2011; Shemesh et al., 2009; Thombs et al., 2013; Tully and Higgins, in press). Considering that the purpose of routine depression screening is to manage previously undetected cases (Thombs et al., 2009), it is therefore imperative to document the psychiatric assessment and management stage in CVD populations. Indeed, with nearly six million cases of HF in the Unites States alone (National Heart Lung and Blood Institute, 2013), combined with 22% depression prevalence in HF (Rutledge et al., 2006), it is timely to quantify the scope of psychiatric comorbidities that require psychiatric management.

With respect to psychiatric comorbidities, personality disorders are not only known correlates of depression (Friborg et al., 2013) but are also associated with heightened cardiovascular and metabolic risk (Goldstein et al., 2008; Moran et al., 2007; Shapiro et al., 1995; Wagner et al., 2008). Moreover, persons with personality disorders are high consumers of health care (Callaly et al., 2011), have increased risk for anxiety disorders, substance and alcohol abuse and suicide (Diaconu and Turecki, 2009; Friborg et al., 2013; Grant et al., 2009; Wedig et al., 2013), and thus pose a challenge to mental health services (Hermens et al., 2011), albeit cardiology settings. Underestimation of the complex needs of personality disorders may hamper concerted efforts to implement depression screening guidelines and impede integrated psychiatric management into clinical

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cardiology practice (Ruscio and Holohan, 2006). To date, we are not aware of a study to report the prevalence of personality disorders in positive depression screen patients with HF. This is surprising considering that the 30% prevalence of personality disorders in heart transplant recipients (Shapiro et al., 1995), whilst links between borderline personality disorder in particular with cardiometabolic risk is being increasingly recognized (Kahl et al., 2005, 2013; Moran et al., 2007; Powers and Oltmanns, 2013; Reich and Schatzberg, 2010; Sansone et al., 2012; Weinberg et al., 2009).

This study reports on an innovative two-stage depression and anxiety screening protocol in HF patients, among three public hospitals in South Australia, Australia. The first aim of this study was to report the prevalence of personality disorders evident among HF patients referred for psychiatric assessment and treatment. A second aim was to evaluate the psychosocial correlates of personality disorders (e.g. Axis-1 comorbidity, suicidality, current and past psychiatric treatment), and we hypothesized that patients with personality disorder will have higher risk for these psychiatric comorbidities and psychosocial factors.

2. Methods

2.1. Patient selection

This study received ethics approval and all participants provided written and informed consent (HREC/12/TQEHLMH/188). Recruitment occurred between April 2011 and June 2012 patients at three South Australian hospitals (Queen Elizabeth Hospital, Royal Adelaide Hospital, Lyell McEwin Hospital). Patients admitted to hospital for HF (e.g. HF symptoms [breathless, ankle swelling, fatigue], and signs [pulmonary crackles, elevated jugular venous pressure] resulting from abnormality of cardiac function or structure (McMurray et al., 2012)) were routinely screened with validated questionnaires. Patients were referred for structured interview when either of the following criteria were met: (a) Depression symptoms were in the clinically significant range (Patient Health Questionnaire ≥ 10); (b) Anxiety symptoms were in the clinically significant range (Generalized Anxiety Disorder ≥ 7); (c) Patients had evidence of panic attack; (d) Evidence of suicidality (evident on PHQ item 9 or identified at initial screening by HF nurse). Anxiety was included in addition to depression screening as the American Heart Association (Lichtman et al., 2008) guidelines advocate comprehensive assessment of anxiety disorders. Also, anxiety disorders are highly prevalent in heart diseases and predict higher rates of cardiovascular morbidity and mortality in patients with heart disease (Frasure-Smith and Lespérance, 2008; Haworth et al., 2005; Tully and Cosh, 2013). Ineligibility criteria for psychology referral were currently receiving psychology and/or psychiatrist support elsewhere. A full description of methods is found elsewhere (Tully et al., 2014).

2.2. Psychological assessment

Patients routinely completed depression and anxiety questionnaires under the supervision of HF nurses, and underwent structured interview median 20 days after referral. The PHQ-9 (Kroenke et al., 2010) is a nine item depression questionnaire covering major depression disorder criteria demarcated by DSM-IV (American Psychiatric Association, 2000). PHQ scores ≥ 10 warrant further evaluation according to guidelines (Lichtman et al., 2008) and have favorable sensitivity and specificity for detection of depression disorder in heart disease populations (McManus et al., 2005). Patients also completed an eight item questionnaire regarding anxiety (Generalized Anxiety Disorder-7, seven items (GAD-7); and a one-item panic screener "*In the last 4 weeks, have you had an anxiety attack—suddenly feeling fear or panic*?") (Kroenke et al., 2010; Spitzer et al., 2006). The GAD-7 is a seven items anxiety questionnaire covering Generalized Anxiety Disorder criteria (American Psychiatric Association, 2000) and GAD-7 scores ≥ 7 have favorable sensitivity and specificity to detect anxiety disorders in primary care patients (Kroenke et al., 2010). The single-item panic disorder screener also showed favorable sensitivity and specificity in detection of panic disorder amongst medical and psychosomatic medicine populations (Löwe et al., 2003). Patients were assessed with the Structured Clinical Interview for DSM-IV Axis-I and AXIS-II disorders (First et al., 1997, 2007). The SCID is a widely validated interview with favorable psychometric properties including high kappa values reflecting inter-rater agreements (Lobbestael et al., 2011). Diagnoses were discussed and verified by two senior clinical psychologists once per month as part of the psychologists' professional development and regulatory board supervision. Medical records were retrospectively evaluated for 6 months prior to the assessment to identify the presence of any psychiatric diagnosis, and then compared with the structured assessment.

2.3. Statistical analyses

Data analysis was performed with SPSS® 20.0 (SPSS Inc., Chicago, IL). Descriptive comparisons between patients with and without personality disorder (binary) employed the independent samples *t*-test, and the chi-square statistic with Fisher's exact test as appropriate. Risk ratios (RRs) and 95% confidence intervals (CIs) show the relative risk for personality disorder patients having a comorbid Axis-I disorder and other psychosocial risk factors. All statistical tests were two-tailed, an alpha value $p < 0.05$ was considered statistically significant and no adjustment was made for multiple comparisons (Rothman, 1990).

3. Results

During the study period 81 patients were referred to HF psychology, eight were not included; did not want support ($n=5$), HF death prior to assessment ($n=2$), receiving psychology treatment elsewhere

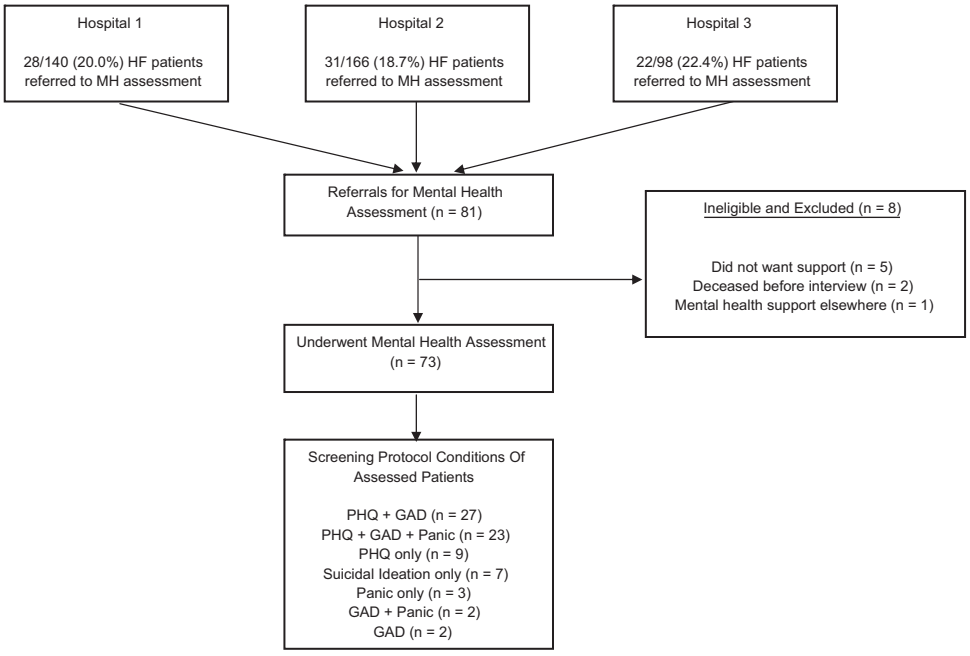

Fig. 1. Flow chart of patients through the study.

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