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### Depression in heart failure

*Moschoula-Mina Iordani*

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## BRIEF REPORT

## DEPRESSION IN HEART FAILURE

**Iordani Moschoula-Mina**

Msc in Applied Clinical Nursing, University of West Attica, Department of Nursing, Athens, Greece

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Despite recent progress in diagnosis, medical treatment and clinical approach in heart failure (HF) still the prevalence of this clinical syndrome remains high mainly due to aging of population.<sup>1,2,3,4</sup> Estimates illustrate a 46% increase in HF prevalence by 2030.<sup>5</sup>

Depression is five times more prevalent in HF patients when compared to general population.<sup>1</sup> Prevalence of major depression in chronic HF is about 20–40%, which is 4–5% higher than general population.<sup>3</sup> Additionally, depression is present in one in five HF patients with 48% of them suffering from severe depression.<sup>3</sup> According to estimates, prevalence of depression ranges from 9 to 60% with higher prevalence among women (32.7%) than men (26.1%).<sup>3,6</sup> Differences are also observed among age groups with younger HF patients to experience more depressive symptoms than older.<sup>6</sup> Notably, these dissimilarities are mainly attributed to the methodology used in research studies across the world.

Impressively, depression is associated with increased mortality<sup>3</sup> and more in detail, depressive symptoms or a depressive disorder is associated with a 2-fold increased risk of death or cardiac events.<sup>5,6</sup> Impressively, 50% of HF patients die within five years after diagnosis.<sup>5</sup> Depression is also an independent risk factor for mortality in HF, regardless of New York Heart Association functional class (NYHA).<sup>4</sup>

Moreover, depression is as a predictor of adverse clinical outcomes<sup>7</sup> and increased healthcare use including a 2-fold risk of emergency room visits and high hospital readmission rates.<sup>5</sup> A possible explanation for the association between depression and poor HF clinical outcomes is that this mental disorder consists an important barrier to HF self-care. Indeed, self-management plays an important role in the likelihood of adopting and maintaining health behaviour changes and

therefore is associated with improved HF clinical and social outcomes.<sup>8,9</sup>

Several demographic and clinical characteristics are associated with depression in relevant research studies. A recent study conducted by Zahid et al.,<sup>2</sup> among 170 HF patients demonstrated that 102 (60%) had depression, of whom 42% ( $n=43$ ) had mild depression. Predictors of depression were New York Heart Association 3<sup>rd</sup> or 4<sup>th</sup> stage, prior myocardial infarction, living without a partner, lack of family cohesion, sedentary lifestyle, aged 70 years or more, and hospitalization at least once in the past two months.

In Greece, a study among 190 hospitalized HF patients in four public hospitals, showed that 17.4% had minor and 24.2% major depression as measured by the Hospital Anxiety and Depression Scale (HADS).<sup>10</sup> A prior study illustrated severe depression in 17.2% of 139 HF patients (79.1% male) with participants at 2<sup>nd</sup> or 3<sup>rd</sup> stage of NYHA classification to experience higher levels of depression.<sup>11</sup>

A study among 150 HF Greek patients showed that patients with symptoms of depression had impaired physical activity associated with excessive hormonal activation. Depression as measured by the Zung-Depression scale appeared to be an independent predictor of the clinical outcome, especially in patients with elevated levels of plasma B-type natriuretic peptide (BNP levels).<sup>12</sup>

HF as a chronic and debilitating clinical syndrome involves various and daily limitations in patients' life mainly attributed to cognitive and physical impairments that accompany the disease. Moreover, HF implies a heavy personal, family, social and economic burden for each individual.<sup>13</sup> Interestingly, considerable frustration and discouragement may arise from the inability to perform normal activities of daily living, such as washing,

dressings, going upstairs or driving the car.<sup>14</sup> Strikingly more, in Greece, the long waiting list for organ donation may trigger depression through the fear of death before finding a donor.<sup>11</sup> Assessing depression within the context of this clinical syndrome is considered as a great challenge because these two diseases (HF and depression) share common physical and emotional symptoms. Also, depression in HF, is an independent predictor of future cardiac events, regardless of disease severity, making it worthwhile to be seriously considered among other cardiac risk factors.<sup>15</sup>

Depressive symptomatology as well as its' exacerbating effect on the prognosis of HF, illustrates the emergency for prompt diagnosis and treatment which may avert further pathophysiological consequences for the heart and brain.<sup>16</sup>

Last but not least, strengthening self management among HF patients and maximizing behavioral interventions, may alleviate this emotional burden, thus improving their quality of life.<sup>17</sup>

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