

Psychological Aspects of Cardiovascular Disease

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According to the projections of global mortality and burden of disease from 2002 to 2030, cardiovascular diseases will rank stably among the top leading causes of death in the world [1]. While age-specific annual death rates for cardiovascular diseases are expected to decline, aging of the population is estimated to correspond to an increase in global cardiovascular deaths from 16.7 million in 2002 to 23.3 million in 2030. Apart from mortality, cardiovascular diseases will continue to rank within the top leading causes of disability adjusted life years in the world [1]. These projections vary only a little between high-, middle- and low-income countries [1].

Fifty years ago, Mayer Friedman and Ray H. Rosenman published their seminal paper on the associations of a specific overt behavior pattern with blood and cardiovascular findings [2]. Men and women with this specific overt behavior pattern Type A were seven times more likely to exhibit coronary heart disease than were their counterparts with a converse Type B behavior pattern. The groups did not differ in dietary, drinking, smoking, exercise, or other living habits, emphasizing the importance of a particular type of personality in the pathogenesis of coronary heart disease. The focus has since shifted from the Type A to other personality and temperament traits, states, sub-clinical symptoms, and psychiatric disorders in the continued efforts to understand the role of psychological factors in cardiovascular disease.

This special issue of the *IJBM* focuses on psychological aspects of cardiovascular disease in a series of eight separate articles. In the first two articles by Friedberg, Suchday, and Srinivas [3], and by Nykliček and Vingerhoets [4] the focus

is on positive and adaptive traits. The authors demonstrate that trait forgiveness promoted better mental and physical health and better cardiovascular functioning in cardiac patients [3], and that problem-focused and adaptive emotion-focused coping were associated with lower blood pressure levels in a general population [4].

In the third article of this special issue, Shott, Kamarck, Matthews, Brockwell, and Sutton-Tyrell [5] examine if trait-negative affect, namely, trait anger, hostility, depression, and anxiety, is associated with brachial artery flow-mediated dilation (FMD) in healthy elderly individuals, and if FMD could offer an explanation why trait-negative affect is coronary-prone. The authors found that in women smaller FMD was associated with higher anger-in, and in men smaller FMD tended to be associated with higher hostility. Next, Hintsanen, Puttonen, Järvinen, Pulkki-Råback, Elovainio, Merjonen, and Keltikangas-Järvinen [6] focus on sympathetic and parasympathetic laboratory-induced stress reactivity and recovery in healthy young adults, and test if the cardiac stress reactivity and recovery explain the previous findings linking novelty-seeking temperament with increased risk factor levels of cardiovascular disease. The authors found no support for their hypothesis as high-novelty seekers did not differ from low-novelty seekers in stress reactivity, and recovered faster from stress.

The fifth article by Barbareschi, Sanderman, Kempen, and Ranchor [7] examine the course of quality of life before and after the incidence of coronary heart disease in elderly persons with high and low socioeconomic status (SES). Persons with a high compared to low SES, earned higher scores on physical functioning before and after the diagnosis reflecting re-establishment of their pre-morbid situation. Further, high SES persons earned higher scores on role and social functioning after the diagnosis, which seemed to reflect a response to the disease.

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The next two papers of this series focus on the psychological and physiological outcomes of cardiovascular behavioral intervention methods. Blom, Georgiades, Janszky, Alinaghizadeh, Lindvall, and Ahnve [8] report that daily stress levels of women hospitalized for a cardiac event decreased more over a one- to two-year period in a stress management intervention group than in a randomly selected control group. Albus, Theissen, Hellmich, Griebenow, Wilhelm, Aslim, Schicha, and Köhle [9] report the long-term beneficial results, with myocardial perfusion and cardiac events as the outcomes, of a randomized controlled multimodal behavioral intervention study in patients with clinically stable coronary heart disease.

In the final article of this series, Lett, Blumenthal, Babyak, Catellier, Carney, Berkman, Burg, Mitchell, Jaffe, and Schneiderman [10] examine interconnections between depression and social support in patients at increased psychosocial risk recovering from myocardial infarction. The authors compared the competing superiority of a series of theoretically derived models and found that the best model seemed to be the one that defined depression and social support as multidimensional and distinct constructs.

To aggregate, this special issue highlights some of the recent topics in cardiovascular behavioral medicine and gives a glimpse of the key issues that need to be explored in the future. Hopefully, the next 50 years for research on psychological aspects of cardiovascular disease continue as lively as the past 50 years since the discovery of behavior pattern Type A.

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