

## A memorandum of “World Heart Day 2013” – Stroke mortality among women in Birjand, East of Iran

Sir,

September 29 is observed as “World Heart Day” and the theme of the present year (2013) is “take the road to a healthy heart.” In continuation of the 2012 theme, the focus on prevention of cardiovascular diseases (CVDs) among women and children will be reinforced in 2013, emphasizing the fact that from childhood through adulthood, we have the opportunity to prevent the burden of heart disease and stroke.<sup>[1]</sup> CVD refers to any disease that affects the cardiovascular system, principally cardiac disease, vascular diseases of the brain and kidney, and peripheral arterial disease. CVDs are the most common cause of death in women and men. Among women, proportion of death due to CVDs is more than the sum of the other four main causes of death (cancer, Alzheimer’s disease, chronic lower respiratory disease, and accidents).<sup>[2]</sup>

Stroke is the second leading cause of death in women after cardiac disease, while in men stroke is the third leading cause of death, after heart diseases and accidents.<sup>[3,4]</sup>

In a study conducted in Vali-e-asr hospital in Birjand (2008–2010), stroke mortality in hospitalized patients was assessed. Out of 586 patients, 296 cases were women (mean age  $69.04 \pm 14.13$  years) and 290 were men ( $69.47 \pm 15$  years). In both sexes, the most prevalent type of stroke was ischemic (73.6% in women and 67.5% in men;  $P = 0.16$ ). The risk factors of stroke, including history of previous stroke, heart disease, dyslipidemia, diabetes mellitus, and old age, were similar in the two sexes. But hypertension was more prevalent in women (66.8% in females and 53.6% in males;  $P = 0.001$ ) and cigarette smoking was more prevalent in men (13.5% in females and 29.8% in males;  $P < 0.001$ ).

In-hospital mortality was 8.5%, 1-month mortality was 3.4%, and 3-month mortality after stroke was 3.9%. In-hospital mortality was 9.7% in females and 7.1% in males ( $P = 0.26$ ). One-month mortality was 3.8% in women and 3.6% in men ( $P = 0.91$ ). Three-month mortality after stroke was 5.6% in females and 3.4% in males ( $P = 0.23$ ). Thus, the mortality was not significantly different in the two genders, which is similar to that reported by Kim *et al.*<sup>[5]</sup>

Kim *et al.*, compared the long-term outcomes after acute stroke in males and females among 1055 patients between January 2005 and January 2009. They reported no gender differences in mortality at 3 months and 1 year after stroke,

but poor outcome was higher in female patients than in male patients at discharge, and 3-month and 1-year follow-up.<sup>[5]</sup>

Silva *et al.*, evaluated 676 consecutive patients with acute ischemic stroke and compared the primary outcome of stroke between men and women by modified Rankin scale (mRS). Results showed that women were less likely to achieve independence after acute ischemic stroke.<sup>[6]</sup>

Given the similar prevalence and mortality of stroke in men and women, we conclude by emphasizing the need for educating the public, especially women, on healthy lifestyle and treatment-seeking for stroke.

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