Gender Differences of Case-fatality Rate in a Brazilian Stroke Registry

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Gender Differences of Case-fatality Rates in a Brazilian Stroke Registry

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Introduction: Recently, a review of stroke epidemiological studies worldwide showed that the incidence of stroke is 33% higher among men, but the 28-day case fatality rates were significantly lower for men (19.7%) than for women (24.7%). In Brazil, the mortality rates are the highest in the Americas with stroke mortality rates among women being a little bit lower than men. Hypothesis: to verify if case-fatality rates (at 10, at 28 days, and at six months) are higher among women compared to men in a Brazilian stroke registry. Methods: The Estudo de Mortalidade e Morbididade do Acidente Vascular Cerebral - EMM Study has been applying the proposal of the World Health Organization (WHO) for stroke surveillance, the WHO Steps Stroke Strategy that is composed of three steps: (1) hospital, (2) deaths at community level, and (3) morbidity at community level. Here, we are presenting the results of step 1 addressing case-fatality rates and risk factors considering the two main stroke subtypes in a 250-bed community hospital, the unique facility in the area of the study with 420,000 inhabitants. We prospectively ascertained consecutive first ever stroke cases from April 2006 to December 2008. Results: From a total of 828 stroke cases with mean age of 69.6 years-old, 53% of male, we confirmed 354 as first ever either cerebral infarction (87%) or intracerebral hemorrhage (13%). Regarding to hospital resources, more than 95% of all stroke acute events were submitted to brain CT scan at first event. Most stroke patients were admitted shortly after onset of symptoms and half or more were hospitalized in the same day, regardless of stroke subtype. We adjudicated a total of 144 stroke deaths among first-ever hemorrhagic and ischemic episodes together [men, 78 (54.2%); women, 66 (45.8%)]. Compared to men, women were older (70.4 vs. 66.3 years-old, P<0.01) and presented a higher frequency of past high blood pressure (84.3% vs. 73.4% p<0.01) and lower frequencies of alcohol consumption (5.6% vs. 25.3%, P <0.001) and smoking (18.1% vs. 42%, p<0.001). We found no significant association between women and men regarding to ischemic stroke (90.4% vs. 84%) and intracerebral hemorrhage (9.6% vs. 16%), p=0.08. The case-fatality rates (and 95% Confidence Interval, 95%CI) for first-ever stroke were at ten days: 9.0% (95%CI: 5.3% to 14.1%) for men, and 5.4% (95% CI 2.5% to 10.0%) for women; at 28 days: 13.3% (95%CI: 8.8% to 19.0%) for men, and 12.7% (8.0% to 18.7%) for women; and at six months: 19.1 % (13.8% to 25.5%) for men, and 21.7% (95% CI 15.7% to 28.7%) for women. Conclusion: in this Brazilian stroke registry, case-fatality among women did not differ from men.