LEARNING THE ROPES: ASPECTS ON MALE VS. FEMALE SEX IN HYPERTENSION

Epidemiology and risk: African perspective

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Hypertension remains a major public health concern in Africa, with countries in sub-Saharan Africa (SSA) among those with the lowest levels of detection, treatment and control globally ^[1]. A study across four countries reported the highest prevalence in South Africa (range across sites: 41.6%-54.1%) and the lowest in Burkina Faso (15%). Hypertension prevalence increased with age in both men and women. Overall, the prevalence of hypertension was higher in women (35%) than in men (31%), a pattern also observed with awareness levels (53.8% vs 39.4%) and rates of control (51% vs. 39%) [2]. In half of the sites, of which two were in South Africa (rural) and one in Kenya (informal settlement), the prevalence of hypertension was higher in women as compared to men, while in Burkina Faso, the prevalence was higher in men as compared to women ^[2]. Some of the age differences in hypertension prevalence by sex were attributed to obesity and physical inactivity. Recent data from Sierra Leone showed similar hypertension prevalence between men (21%) and women (22%) ^[3]. However, when considering middle-aged and older individuals, the prevalence was higher in women (48%) than in men (35%). This implies that social and biological factors acting at different stages of the life course may be the underlying determinants in the sex-specific discrepancies in hypertension.

The high prevalence and awareness levels in women were also evident in a nation-wide study conducted in Nigeria, while treatment and control rates were similar between men and women. Individuals living in urban areas had higher rates of awareness and treatment than those in rural areas ^[4]. Similarly, in Sierra Leone [3], awareness, treatment and control rates were higher in urban than rural areas and differed by education level. Another multi-country study, which included

only hypertensive patients from 12 countries in SSA confirmed the high burden of hypertension in women and similar treatment and control rates between men and women ^[5]. Of note, women in this study had a higher frequency of other cardiovascular risk factors such as obesity, sedentary lifestyle and family history, but less cardiovascular complications as compared to men ^[5].

Modifiable and non-modifiable risk factors contribute to the burden of hypertension in African populations. Low socioeconomic status, older age, urbanization, level of education, tobacco use, excessive alcohol consumption, physical inactivity, overweight and obesity, diet (high salt intake) are major risk factors for hypertension in SSA (Figure 1) ^[2, 3, 6]. Living in a rural area and lack of health insurance are among the barriers to screening, treatment and control [4-5]. Early life factors such as low birth weight and childhood obesity, and ethnicity/race are associated with early onset of hypertension and are influenced by socioeconomic disparities in some SSA countries such as South Africa ^[7]. Risk factors such as obesity and physical inactivity were found to be prominent in women, while smoking and alcohol consumption are common in men and increasing in young adults. Therefore, health education and promoting change in behaviour can significantly reduce the risk of developing hypertension.

In Africa, the burden of hypertension and sex differences in detection, treatment and control rates differ by region and locality (rural/urban). The low levels of awareness, treatment and control highlight the need for intensified screening efforts and implementation of cost-effective and context-specific hypertension management strategies, such as health education, lifestyle

Figure 1: Contributing factors to the burden of hypertension in sub-Saharan Africa

modifications and improving access to medicines. It is equally important to investigate pathophysiological mechanisms underlying sex differences in hypertension development in African populations to enhance understanding and management of hypertension.

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