Distribution of CV risk factors in a convenience sample of community dwelling Kenyans

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Introduction: There is an emerging epidemic of CVD in sub-Saharan Africa which is predicted to worsen and is often attributed to westernization of lifestyle. In addition a worrisome trend for clustering of risk factors has been noted. In our work to date we have observed high rates of HTN, DM, obesity and multiple CV risk factors (CVRF) in Kenya, but have not observed the traditional Western athrogenic lifestyle risk factors. Objectives; The purpose of this study was to add the systematic assessment of lifestyle CVRF, including those targeted by WHO (smoking, physical activity, diet, alcohol), to our CV screenings using validated questions.

Methods: Community based participatory research: a convenience sample of consecutive patients at 5 Kenyan clinics were screened for CVRF by trained US/Kenyan teams using protocols for physiologic measures. Questions relating to lifestyle behaviors were drawn from the validated BRFSS and WHO World Health Survey. Clinical data were abstracted, entered onto excel spreadsheets and imported into Stata© for analysis. US/Kenyan IRB approval was obtained.

Results: 801 individuals (mean age 54 [±17.5], 77% female, 98% black) were screened and found to have high rates of HTN (55.6%), DM (9.2%), and BMI ≥ 25 (53.8%). Women were more likely to be overweight (60.7%, 32.8%; p=0.00) and have ↑waist circumference (61.1%, 14.7%; p=0.00). Older age (<45, 45-64, 65+) was associated with ↑ rates of HTN (25%, 58.5%, 75.7%; p=0.00). The majority (61.4%) had 2+ CVRF and self-reported health to be fair/poor (66.9%) and depressive symptoms (32.3%). Selfreported behaviors included; physical activity ≥ 1 hr/day (84.8%), never/rarely drank soda (79.1%), cooked with solid fat (64.2%) and smoking (5.32%). Significant gender differences (male/female) were noted for smoking (19.9%, 0.65), alcohol (21.9, 1.7%), stress (49.0%, 60.3%) sedentary activity (<1 hr/day; 22.2%, 12.9%), >2 hrs/day TV (44.6%, 29.3%) and adding salt to food (38.7%, 24.3%).

Conclusions: In those individuals who presented for community CV screening the prevalence and clustering of physiologic risk factors was high. The prevalence of lifestyle risk factors however differed from Western models with low rates of sedentary activity, smoking and sweetened drinks. Gender differences were noted. This challenges current assumptions about globalization and the increased prevalence of CVD in developing countries; and suggests a need for further study and cultural/gender tailoring of prevention strategies to optimize outcomes.