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1 Letter to the editor

2 **The obesity epidemic in Sri Lanka revisited.**

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28 Obesity has reached epidemic levels in most affluent countries. In contrast, South Asia is
29 presently considered a minimally affected region as malnutrition and infectious diseases are still
30 their main health concerns (1). South Asians have poor attitudes toward obesity and being obese
31 considered as sign of prosperity (2).

32 Sri Lanka is a low-middle income South Asian country with a population of over 20 million.
33 Obesity and associated metabolic problems are emerging as major health problems in the country
34 with an estimated 20% of all adults suffering from dysglycemia and 11% from Type 2 diabetes
35 (3). The Sri Lanka Diabetes and Cardiovascular Disease Study (SLDCS) was conducted between
36 2005-2006 and reported an obesity prevalence ($\geq 25 \text{ kg.m}^{-2}$) of 14.3% and 19.4% in males and
37 females, respectively (4). In early 2011, we revisited random sub-samples from the SLDCS and
38 in addition we collected data from the previously missing North and Eastern provinces in the
39 SLDCS. In total six hundred adults were approached from 12 clusters of 50 participants each.
40 Details of the study design and sample selection have been described in detail elsewhere (5).
41 While we believe this is the first report from Sri Lanka to include the North and Eastern
42 provinces, we did encounter poorer participation of males with only single clusters being
43 measured in some of these regions. Age adjusted prevalence of overweight ($\text{BMI} \geq 23 \text{ kg.m}^{-2}$),
44 obesity ($\text{BMI} \geq 25 \text{ kg.m}^{-2}$) and abdominal obesity (Men: $\text{WC} \geq 90 \text{ cm}$; Women: $\text{WC} \geq 80 \text{ cm}$)
45 were categorized according to Asia-pacific anthropometric cut-offs (6).

46 Four hundred and ninety adults participated in the study giving us a response rate of 82%. Mean
47 age was 48.1 ± 14.8 years. The majority of the study population were 'Sinhalese' in ethnicity
48 ($n=377$, 76.9%), educated up to grade 11 ($n=189$, 38.6%), were female ($n= 321$, 65.5 %) and
49 resided in rural areas ($n=287$, 58.7%) . Age-adjusted prevalence (95%CI) of overweight, obesity
50 and abdominal obesity among Sri Lankan adults were 17.1(13.8-20.7)%, 28.8(24.8-33.1)% and

51 30.8(26.8-35.2)%, respectively. Men compared to women, were less overweight [14.2 (9.4-
52 20.5)% vs. 18.5 (14.4-23.3)%, p<ns], obese [21.0 (14.9-27.7)% vs. 32.7 (27.6-38.2)%, p<0.05]
53 and abdominally obese [11.9 (7.4-17.8)% vs. 40.6 (35.1-46.2)%, p<0.05].

54 The prevalence of obesity in 1990 was 7.0% and 13.4% for men and women in Colombo suburbs
55 (7), but by 2000 the overall obesity prevalence had doubled to 19.2% in the same study area (8).

56 Our study which covers a greater area of Sri Lanka shows an obesity prevalence of 21% for men
57 and 32.5% for women. Compared to the original SLDCS data, we find a higher overall
58 prevalence of overweight and abdominal obesity. These outcomes were strongly in favor of
59 women with a subtle change in obesity (BMI>25Kg.m⁻²) and abdominal obesity (waist >90cm)
60 in men which was marginally lower than previously encountered. In such comparisons of data,
61 there could be heterogeneity between studies due to sampling, selected study areas, age group
62 representation and clinical cut-offs of obesity. The large upward shift in the prevalence of
63 overweight between SLDCS and our data would in part reflect these facets and needs further
64 investigation. However they would also reflect changes in environmental factors such as
65 increased availability of calorie-dense foods post-war (4), and improvements in socio-economic
66 status of the country. Hwang et al reported that each kg.m⁻² of BMI gained was associated with
67 an 18% increase in the risk of developing hypertension and a 26% increase in risk for the
68 metabolic syndrome (9). Already a quarter of Sri Lankan adults are suffering from metabolic
69 syndrome (10). It is time that legislators, clinicians and public health authorities give this issue
70 their considered attention to begin the process of reversing this alarming trend. Recent consensus
71 reports provide a good framework for action that could be tailored to suit the needs of Sri Lanka.

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