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Including Obesity in the Noncommunicable Disease Definition: The 4-1-4 Framework

It has been 70 years since the term 'noncommunicable disease' (NCD) was first used in medical literature[1]. The importance of noninfectious chronic diseases, however, was understood much earlier. The death of President Roosevelt, from an untimely stroke, was one factor which spurred investment in research on this topic[2]. The Framingham Heart Study, which later led to the concept of 'risk factors', was an outcome of this interest[3].

Over the past few decades, the scope and spectrum of NCD has changed and evolved. To bring clarity to an ever-expanding field, the World Health Organization (WHO) created a 4 × 4 framework, listing 4 major NCDs and 4 major risk factors[4]. This simple rubric facilitated a global movement on NCD prevention and management. While the diseases were chosen for their clinical and public health impact - diabetes, cardiovascular disease, cancer, and chronic respiratory diseases, the 4 risk factors (unhealthy diet, physical inactivity, tobacco, and alcohol) were listed as they are common to all the aforementioned disorders.

There has been criticism of the 4 × 4 framework, as it excludes many important diseases. There have also been calls to modify it to a 5 × 5 framework, with mental health and oral health claiming their place under the NCD sun[5]. It must be remembered, however, that the NCD campaign is a relatively recent one, and major changes to its taxonomy may confuse the intended audience rather than consolidate our efforts.

At the same time, innovation and improvement are an integral part of science, and we must continually strive to do better. In recent years, obesity has emerged as an opportunity for prevention of disease, and promotion of health. Obesity is recognized as a disease in itself, and is also a forerunner of all the conditions[6-8] listed in the 4 × 4 WHO NCD framework. It shares the same risk factors, and should respond to similar public health interventions as these diseases. The health economic impact of the obesity pandemic, and the financial savings that may accrue if we are able to arrest it, are significant[9].

It is logical, therefore, to call for a minor adjustment to the existing 4 × 4 framework. We suggest a reframing of this rubric, by adding obesity at the center (Fig. 1), and naming it the 4-1-4 framework. This seemingly simple change will have far-reaching beneficial effect on public as well as clinical health. Governments and

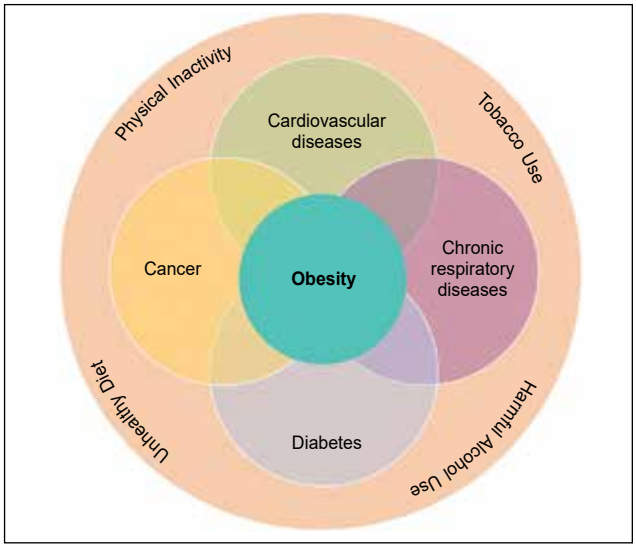

Figure 1.

other stakeholders will be able to focus efforts on the upstream opportunity of obesity, and prevent downstream disorders such as cardiometabolic disease and cancer, with a single intervention. Physicians and paramedical staff will be able to redouble their efforts to fight obesity and overweight, using a standard WHO reference point. Other stakeholders, such as insurance payers and non-governmental organizations will be able to support delivery of accessible and affordable obesity care. Most important of all, the public, which is perhaps the most important player, will realize the importance of overcoming obesity, and begin to act accordingly.

To have a healthier future, for ourselves, and for future generations, we must adopt the 4-1-4 framework. Obesity is an obstacle to health that we should not be oblivious to; at the same time obesity management is an opportunity, which we must not overlook.

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