

Diseases of Lifestyle and Unhealthy Diet: Editorial

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Twin epidemics of obesity and diabetes have reached epidemic proportions worldwide, and there seems to be no signs whatsoever, that this trend will reverse in the near future. Malnutrition in all its forms, including obesity, undernutrition, and other dietary risks, is the leading cause of poor health globally [1]. Results of a recent study, by the Lancet Public Health Investigators, shows an alarming extent of obesity's impact on health [2]. The authors conclude, that the effect of obesity through NCDs, is likely to be more alarming than reported by the Global Public Health Groups [2]. Systematic reviews of a large data-base suggests, that determining obesity based on Body Mass Index (BMI), has low to moderate sensitivity, and is quite conservative for all ages and sexes. The prevalence of adult overweight and obesity, as defined using BMI has increased worldwide since the 1980s, with no country demonstrating any successful decline in the last four decades. Recently, the International Atherosclerosis Society (IAS) and International Chair on Cardiometabolic Risk (ICCR) Working Groups, issued a Consensus Statement, "Waist circumference as a vital sign in clinical practice". A bilateral study between the University of Minnesota researchers, and the staff of Madras Diabetes Research Foundation (MDRF), Chennai, India, reported their findings on the importance of waist circumference on determining obesity [3].

Leaving aside these controversies and concerns, what is evident is that in the last four decades, childhood and adolescent obesity has increased by ten-fold globally, according to the lead author Professor Majid Ezzati, of Imperial's School of Public Health, London (WHO October 11, 2017). In recent years, large increases in diabetes prevalence have been demonstrated in virtually all regions of the world [4]. According to these investigators from Centers for Disease Control (CDC), Atlanta, USA, Baker Heart and Diabetes Institute, and School of Population Health and Preventive Medicine, Australia, the current understanding of the international burden of and variation in diabetes-related complications is poor. In 2017, the IAS and ICCR Working Group on Visceral Obesity convened in Prague, Czech Republic, to discuss the importance of abdominal obesity, as a risk factor for premature atherosclerosis and CVD in adults. In the Consensus Statement that this group developed, they summarized their evidence that BMI alone is not sufficient to properly assess, evaluate or manage, the cardio-metabolic risk associated with the increased adiposity, and recommended that waist circumference be adopted as a routine measurement in clinical practice, alongside BMI to classify obesity [5]. Moreover, they describe that clinically relevant reductions in waist circumference can be achieved by routine moderate-intensity exercise and/or dietary interventions.

Following the first reports of cases of acute respiratory syndrome, in the Chinese Wuhan municipality, at the end of December 2019, Chinese authorities have identified a novel coronavirus as the main causative agent. Since then, every day new warnings have appeared about the seriousness of this virus infection and spreading. After the announcement of several hundred deaths and infection of thousands of Chinese, Public Health Officials have now declared this a Global Public Health Emergency. What differentiates this from the syndemic of cardiometabolic diseases is, that the infectious disease kills large number of individuals at very short notice and by nature is infectious. On the other hand, overall morbidity and mortality due to cardiometabolic diseases, are much higher than combined mortality of all other

causes. In fact, according to the Lancet Global Burden of Disease Study in 2016, NCDs contributed to 62% of all deaths, while the communicable disease contributed 28% of deaths [6-8]. Long-term effects of metabolic diseases such as hypertension, obesity and diabetes are great economic and healthcare burden for the developing countries.

According to the latest National Diabetes Mellitus (DM) survey in 2010 (which is already a decade old), in China, there is rapid increase in the prevalence of DM, and has increased 17-fold. According to the authors, potential risk factors which could have contributed to the increasing prevalence and incidence of DM and impaired glucose tolerance in the Chinese population included, social and economic development, urbanization, dietary pattern and Westernized lifestyle [9]. They recommend, that Public health strategies should focus on modifying lifestyle and dietary factors, particularly with a susceptible genetic background. By and large, type-2 diabetes, is a disease often associated with aging, the global prevalence of early-onset diabetes, has been increasing in Asian Countries (especially in China and India), due to sedentary lifestyle, low physical activity, obesity, and additional modifiable risk factors [10]. Individuals with early-onset diabetes, seems to be at higher risk of developing vascular complications, than those with late-onset diabetes. Added to this, in South Asian countries, over 35% of children born are of low birth weight (LBW). These LBW children have a greater risk of developing cardio-metabolic diseases, than normal weight children [11]. We and others have articulated, the need for immediate action. However, there seems to be no immediate effect of such calls for action on professional societies, global health organizations, and various stake holders. For instance, in India, researchers have been aware of the fact that low birth weight is a significant contributor, to the overall increase in the incidence of cardiometabolic diseases, for over half a century [12]. Despite the fact, that some earlier studies have demonstrated, that improving intake of nutrients during pregnancy effectively reduces LBW, not much has happened worldwide, to address this serious problem. One of the top priorities of our professional group, is to develop a robust healthy diet program for the would be mother, pregnant women, and neonates.

We already have discussed the unbelievable increase in the childhood and adolescent obesity. Second priority should be, developing an education program for this highly susceptible group.

Modern medicine, with all its superb advances in the diagnosis, and interventions, has miserably failed in the prevention area. The focus has been modification of known risks for vascular diseases than prevention of risk development in the first place. We also feel strongly, that treating the disease itself is probably better than the current focus, on the management of modifiable risks for vascular diseases. INTERHEART studies and other such studies, have demonstrated the benefits of robust management of modifiable risks in significantly lowering the premature mortality due to cardiovascular diseases [13,14]. However, such large clinical studies have not been done, to validate the benefits of risk-factor modification on reducing, reversing, or preventing metabolic diseases like hypertension, excess weight, obesity and type-2 diabetes. Between 1980 and 2009, age-standardized cardiometabolic mortality declined in all 26 industrialized countries. Across the 26 countries together, risk factor trends may have accounted for -48% men and 40 and women of cardiometabolic mortality decline [15]. During the 15+ years since the MONICA Project, CVD mortality has further declined but diabetes prevalence and mortality has increased in high-income countries.

Almost all hypertension-related complications are preventable. Lifestyle modification seems to decrease blood pressure, and prevent hypertension, and antihypertensive medications can effectively, reduce the CVD events attributed to hypertension. In a scientific report on this topic of public health importance, Rajati and associates, conclude, "The Kurdish population had higher awareness, with a greater proportion treated, and controlled patients, compared to populations included in previous studies for the last 20 years in Iran. With the continuing health promotion programs in Iran, it is expected to observe a lower prevalence of hypertension, higher awareness, and greater number of treated individuals, with controlled hypertension [16]". The importance of effective interventions to reduce, or reverse, obesity-related health risks has increased tremendously in recent years, because of the number of adults and children who are obese and have reached epidemic proportions. To prevent the development of overweight and obesity throughout the life course, population-

based approaches to obesity prevention are complementary to clinical preventive strategies, and also to treatment programs for those who already are obese [17]. Since excess weight and obesity are very important contributors for the development of type-2 diabetes, CVDs as well as cancer, I have included the Scientific Statements of the American heart Association. The American Heart Association Scientific Statement aims: 1) to raise awareness of the importance of undertaking population-based initiatives specifically geared to the prevention of excess weight gain in adults and children; 2) to describe considerations for undertaking obesity prevention overall and in key subgroups; 3) to differentiate environmental and policy approaches to obesity prevention from those used in clinical prevention and obesity treatment; 4) to identify potential targets of environmental and policy changes using an ecological model that includes multiple layers of influences on eating and physical activity across multiple societal sectors; and 5) to highlight the spectrum of potentially relevant interventions and the nature of evidence needed to inform population-based approaches.

There exists strong evidence that reversal of type-2 diabetes, is achievable using bariatric surgery, low-calorie diets, or carbohydrate restriction [18]. Both the American Diabetes Association and European Association for the Study of Diabetes recommend a carbohydrate restricted diet eating pattern, and a short-term use of low-calorie diet for weight loss. Despite the increased interest in reversal of diabetes, achieving reversal is not the common goal of any healthcare model. Standard care for diabetes worldwide, does not aim at achieving reversal. We feel strongly that development of robust awareness and prevention strategies, should be promoted at the primary healthcare level. There are great challenges and opportunities for developing primary prevention of cardiometabolic diseases.

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