

Becoming 'Weight Wise': Understanding the Complexities of Obesity

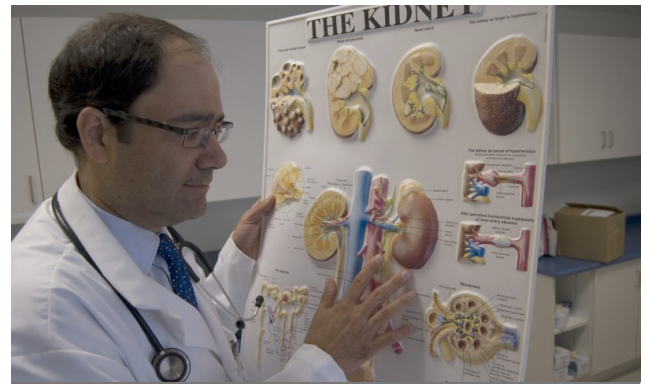
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Current obesity statistics are staggering — national statistics show that the majority or 59% of the Canadian population is considered overweight, and 1 in 4 or 5.5 million adults are classified as clinically obese.¹ Rates of childhood obesity have also dramatically increased, with the most pronounced rise in adolescents.² Unfortunately, the increasing prevalence of this disease is not unique to the Western world, but has become an international epidemic.^{3,4} Obesity is a risk factor for a variety of chronic conditions such as diabetes, high blood pressure, heart disease, sleep apnea, osteoarthritis, and some forms of cancer; this represents a tremendous financial burden on our health care system.^{5,6} Therefore, understanding the causes of this disease is critical for preventing obesity from continuing to overwhelm our health care system.

Canadian obesity experts believe that obesity's causes and treatments are not reducible to a measure of calories in versus calories out. According to Dr. Arya Sharma, Professor and Chair of Obesity Research and Management at the University of Alberta, "telling people to eat less and move more does not work," since multiple biological,

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psychological, and social factors contribute to the manifestation of this disease.^{5,7} The multifactorial nature of obesity makes it difficult to come up with practical and simple solutions that work for everyone. Understanding the interconnections and complexity of these factors will aid in formulating effective treatment and management strategies. As the Medical Director of the Edmonton Weight Wise Program, Dr. Sharma, along with a specialized multidisciplinary team of health professionals, provides a comprehensive approach to preventing and managing excess weight and obesity through tertiary medical,



Dr. Arya Sharma, Professor and Chair of Obesity Research and Management at the University of Alberta and Scientific Director of the Canadian Obesity Network.

psychological, and surgical interventions.⁸ To qualify for treatment, adults over the age of 17 must have a body mass index (BMI) greater than or equal to 35, must not have untreated psychological disorders, must be able to attend a minimum of 10 clinic appointments within a 9-month period, and must be referred to the program by a physician. After an initial clinic assessment, a treatment plan is developed based on the patient's needs; the plan may include behaviour modification, a mental health assessment, nutritional counseling and physical activity recommendations, drug treatment and/or bariatric surgery. According to Dr. Sharma, "what makes this program different is that we try to address the etiology of obesity so for each patient we try to figure out why is this person obese, how is obesity affecting their health, and what would be an effective treatment plan". The primary goal of the clinic is "to provide individuals struggling with excess weight access to the level of care required to help better manage their weight and reduce associated health risks."

Dr. Sharma is revolutionizing how obesity is managed clinically by creating novel diagnostic tools to aid health professionals in predicting obese patients' health risk outcomes. Dr. Sharma and his colleague Dr. Raj Padwal from the University of Alberta developed the Edmonton Obesity Staging System (EOSS), a set of criteria designed to classify patients into specific categories based on their BMI and state of health. This innovative system provides

insight into the patient's mental, medical, and functional problems related to their excess weight. "Currently obesity is determined by BMI, which is based on your size, so BMI tells me how big a patient is but EOSS tells me how sick a patient is" says Dr. Sharma. "Within each level of BMI you can have patients who have no obesity-related health problems at all or people who have a lot of obesity-related health problems." In a paper published last year in the Canadian Medical Association Journal, Drs. Sharma and Padwal examined the efficacy of using EOSS in overweight and obese individuals and found that EOSS scores were a strong predictor of increased mortality independent of the individuals' waist circumference, presence of metabolic syndrome, and BMI⁹. Another study published last year in Applied Physiology, Nutrition, and Metabolism showed that obese individuals with low EOSS scores had a comparable mortality risk to lean individuals and were less likely to die from cardiovascular complications.¹⁰ "EOSS puts an emphasis on individualized treatment needs which depends on how sick or at-risk a patient is. Because obesity requires long-term treatment and can be costly, knowing which patients need to be most urgently treated to improve their health and which do not, can save health-care dollars," says Dr. Sharma. The EOSS diagnostic tool is currently being used at the Edmonton Weight Wise Program's clinic as well as in similar clinics across the nation and overseas.

Dr. Sharma states that "obesity is a chronic heterogeneous multifactorial condition that threatens or affects an individual's mental and socio-economic health." Therefore, multidisciplinary approaches and knowledge translation between fields are critical to understanding the complexities of this disease. To facilitate this, a network providing knowledge transfer between individuals from various medical and research disciplines has been established. The Canadian Obesity Network (CON) is the largest national network consisting of over 6,000

members, bringing together "obesity researchers, health professionals, decision makers, and other folks with a 'professional' interest in obesity from across the globe." As its Scientific Director, Dr. Sharma says that the purpose of the network is to "help connect all these folks and foster an exchange of ideas [that] may provide new solutions to Canada's emerging obesity epidemic." Since 2005, CON has hosted regional and national workshops aimed at training researchers, health professionals and students with "a keen interest in obesity prevention and management." National initiatives addressing childhood obesity are also supported by CON. Over the past four years, the main

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goal of the network has been addressing weight bias and weight-based discrimination since members like Dr. Sharma agree that "this is the central problem at the very heart of finding solutions to the obesity issue." Anyone with a professional interest in obesity can register for free at www.obesitynetwork.ca and "become part of Canada's professional obesity community."

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Nicole Barra completed her undergraduate degree at the University of Toronto in Human Biology. She is currently pursuing a PhD in Infection and Immunity at McMaster University's Medical Sciences program in an area that combines two great disciplines - obesity and immunology. Her project involves examining the role of immune factors in regulating adipose tissue. Her research interests include understanding the role of immunity in modulating metabolism during the onset and progression of obesity and diabetes. She is also a member of the Canadian Obesity Network and was fortunate to attend the fifth annual Obesity Summer Bootcamp.