

## ***The Lancet Diabetes & Endocrinology:***

**Global Commission proposes major overhaul of obesity diagnosis, going beyond BMI to define when obesity is a disease.**

- ***Current medical approaches to diagnosing obesity rely on BMI which is not a reliable measure of health or illness at the individual level. This can result in misdiagnosis with negative consequences for people living with obesity and wider society.***
- ***The Commission on Clinical Obesity recommends a new, nuanced approach where measures of body fat - for example, waist circumference or direct fat measurement - in addition to BMI are used to detect obesity, therefore reducing the risk of misclassification.***
- ***Additionally, the authors introduce two new diagnostic categories of obesity based on objective measures of illness at the individual level; 'clinical obesity' (a chronic disease associated with ongoing organs' dysfunction due to obesity alone) and 'pre-clinical obesity' (associated with a variable level of health risk, but no ongoing illness).***
- ***The Commission authors call for all people living with obesity to receive personalised health advice and evidence-based care when needed - free of stigma and blame - with different strategies for clinical obesity and pre-clinical obesity.***

A global Commission, published in [The Lancet Diabetes & Endocrinology](#) and endorsed by 75 medical organisations around the world [1], presents a novel, nuanced approach to diagnose obesity, based on other measures of excess body fat in addition to body mass index (BMI), and objective signs and symptoms of ill health at the individual level.

The proposal is designed to address limitations in the traditional definition and diagnosis of obesity that hinder clinical practice and healthcare policies, resulting in individuals with obesity not receiving the care they need. By providing a medically coherent framework for disease diagnosis, the Commission also aims to settle the ongoing dispute around the idea of obesity as a disease, which has been at the centre of one of most controversial and polarising debates in modern medicine. Commission chair, Professor Francesco Rubino, King's College London (UK) says, "The question of whether obesity is a disease is flawed because it presumes an implausible *all-or-nothing* scenario where obesity is either always a disease or never a disease. Evidence, however, shows a more nuanced reality. Some individuals with obesity can maintain normal organs' function and overall health, even long term, whereas others display signs and symptoms of severe illness here and now.

"Considering obesity only as a risk factor, and never a disease, can unfairly deny access to time-sensitive care among people who are experiencing ill health due to obesity alone. On the other hand, a blanket definition of obesity as a disease can result in overdiagnosis and unwarranted use of medications and surgical procedures, with potential harm to the individual and staggering costs for society.

"Our reframing acknowledges the nuanced reality of obesity and allows for personalised care. This includes timely access to evidence-based treatments for individuals with clinical obesity, as appropriate for people suffering from a chronic disease, as well as risk-reduction management strategies for those with pre-clinical obesity, who have an increased health risk, but no ongoing illness. This will facilitate a rational allocation of healthcare resources and a fair and medically meaningful prioritisation of available treatment options."

With over one billion people in the world now estimated to be living with obesity [2], the Commission's proposal provides an opportunity for health systems globally to adopt a universal, clinically relevant definition of obesity and a more accurate method for its diagnosis.

### **Current approaches to diagnosing obesity are ineffective**

There is an ongoing debate among clinicians and policymakers over the current diagnostic approach to obesity, which is prone to misclassification of excess body fat and misdiagnosis of disease.

Part of the issue is due to obesity being currently defined by BMI, with a BMI of over 30 Kg/m<sup>2</sup> considered as an indicator of obesity for people of European descent. Different, country-specific BMI cutoffs are also used to account for ethnic variability of obesity-related risk.

Although BMI is useful for identifying individuals at increased risk of health issues, the Commission highlights that BMI is not a direct measure of fat, does not reflect its distribution around the body and does not provide information about health and illness at the individual level.

“Relying on BMI alone to diagnose obesity is problematic as some people tend to store excess fat at the waist or in and around their organs, such as the liver, the heart or the muscles, and this is associated with a higher health risk compared to when excess fat is stored just beneath the skin in the arms, legs or in other body areas. But people with excess body fat do not always have a BMI that indicates they are living with obesity, meaning their health problems can go unnoticed. Additionally, some people have a high BMI and high body fat but maintain normal organ and body functions, with no signs or symptoms of ongoing illness.” says Commissioner Professor Robert Eckel, University of Colorado Anschutz Medical Campus (USA).

### **Beyond Body Mass Index**

Whilst recognising BMI is useful as a screening tool to identify people who are potentially living with obesity, the authors recommend moving away from detecting obesity based on BMI alone. Instead, they recommend confirmation of excess fat mass (obesity) and its distribution around the body using one of the following methods:

- at least one measurement of body size (waist circumference, waist-to-hip ratio or waist-to-height ratio) in addition to BMI
- at least two measurements of body size (waist circumference, waist-to-hip ratio or waist-to-height ratio) regardless of BMI
- direct body fat measurement (such as by a bone densitometry scan or DEXA) regardless of BMI
- In people with very high BMI (e.g. >40 Kg/m<sup>2</sup>) excess body fat can be pragmatically assumed.

### **Two new categories of obesity: ‘clinical obesity’ and ‘pre-clinical obesity’**

The Commission also provides a new model for disease diagnosis in obesity based on objective measures of illness at the individual level.

**Clinical obesity** is defined as a condition of obesity associated with objective signs and/or symptoms of reduced organ function, or significantly reduced ability to conduct standard day-to-day activities, such as bathing, dressing, eating and continence, directly due to excess body fat. People with clinical obesity should be considered as having an ongoing chronic disease and receive appropriate management and treatments.

The Commission sets out 18 diagnostic criteria for clinical obesity in adults (see appendix figure 1) and 13 specific criteria for children & adolescents (see appendix figure 2), including:

- Breathlessness caused by effects of obesity on the lungs
- Obesity-induced heart failure
- Knee or hip pain, with joint stiffness and reduced range of motion as a direct effect of excess body fat on the joints
- Certain alterations of bones and joints in children and adolescents limiting movement
- Other signs and symptoms caused by dysfunction of other organs including kidneys, upper airways, metabolic organs, nervous, urinary and reproductive systems and the lymph system in the lower limbs

**Pre-Clinical obesity** is a condition of obesity with normal organ function. People living with pre-clinical obesity therefore do not have ongoing illness, although they have a variable but generally increased risk of developing clinical obesity and several other non-communicable diseases (NCDs) in the future, including type 2 diabetes, cardiovascular disease, certain types of cancer and mental illness, among others. As such, they should be supported to reduce the risk of potential disease.

### **People living with obesity need personalised care**

The Commission’s reframing of obesity is designed to ensure that all people living with obesity receive appropriate health advice and evidence-based care when needed, with different strategies for clinical obesity and pre-clinical obesity.

People with clinical obesity should receive timely, evidence-based treatment, with the aim to fully regain or improve the body functions reduced by excess body fat, rather than solely to lose weight.

The type of treatment and management for clinical obesity – lifestyle, medication, surgery, etc –should be informed by individual risk: benefit assessments and determined by an active discussion with the patient.

Health insurers worldwide often require evidence of other conditions associated with obesity (e.g. type 2 diabetes) to provide coverage of obesity therapies. As a distinct chronic illness itself, clinical obesity should not necessitate the presence of another disease to justify coverage.

People living with pre-clinical obesity are at risk for future diseases but do not have ongoing health complications due to excess body fat. Accordingly, the approach to their care should aim at risk-reduction. Depending on the individual level of risk, this may require just health counselling and monitoring over time, or active treatment if necessary to reduce substantially high levels of risk.

“This nuanced approach to obesity will enable evidence-based and personalised approaches to prevention, management and treatment in adults and children living with obesity, allowing them to receive more appropriate care, proportional to their needs. This will also save healthcare resources by reducing the rate of overdiagnosis and unnecessary treatment,” says Commissioner Professor Louise Baur, University of Sydney (Australia).

The Commission involved 56 world leading experts across a broad range of medical specialties, including endocrinology, internal medicine, surgery, biology, nutrition and public health, representing many countries and diverse healthcare systems. The Commission also included people living with obesity and specifically considered the potential impact of the new definitions of obesity on widespread societal stigma.

"Studies show that the way obesity is usually talked about adds to weight stigma, making it harder to prevent, manage and treat. The approach proposed by this Commission can help clear up misconceptions and reduce stigma. We also urge better training for healthcare workers and policymakers to tackle this issue," says Joe Nadglowski, patient advocate and Commissioner, Obesity Action Coalition (USA).

#### NOTES TO EDITORS

There was no industrial grants or other funding for this initiative. King's Health Partners hosted the initiative and provided logistical and personnel support to facilitate administrative work and the delphi-like consensus-development process. For a full list of researchers and their institutions see the Commission report.

Quotes from authors cannot be found in the text of the Article but have been supplied for the press release.

#### References:

[1] For a full list of medical organisations endorsing the Commission see the report appendix.

[2] [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)02750-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)02750-2/fulltext)

Resources from the World Obesity Federation to support discussing obesity in the media:

- [The do's and don'ts when talking about obesity](#)
- [Image use and obesity: recommendations](#)
- Visit [www.worldobesity.org/resources/image-bank](http://www.worldobesity.org/resources/image-bank) for a selection of free to download images available for use.