Editorial Commentary

How will the latest modifications to the CG189 NICE guidelines for obesity management likely impact clinical care?

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Based on the 2019 Health Survey for England, nearly two thirds of the adult population and one third of children (aged 2–15 years) are either overweight or obese (1). In England, obesity affects 28% of adults, 20% of boys and 13% of girls (1). Obesity is a chronic, often life-long disease that associates with >50 weight-related conditions, most notably type 2 diabetes mellitus (T2D), and other dysmetabolic conditions that contribute towards the metabolic syndrome and many other conditions that impact on nearly every aspect of physiology and mental functioning (2). Obesity has a huge economic burden, with government estimates indicating the current costs of obesity in the UK at £6.1 billion to the National Health Service (NHS), and £27 billion to wider society (1). Despite this, obesity remains fundamentally misunderstood and neglected. This is reflected by woeful under-funding of management strategies for obesity (despite many of these being highly efficacious), guidelines that place time-limitations on potentially effective therapies (with possible negative outcomes that stem from subsequent weight re-gain), and a prevailing fog of obesity-related stigma that seems to pervade its way throughout society like a contagion.

Obesity merits clear guidelines regarding its accurate identification and assessment, and effective management. The 'National Institute for Health and Care Excellence' (NICE) has provided clear and concise guidelines for both adults and children for many years, and these represent an invaluable resource for any healthcare professional involved in the management of obesity. In September 2022, the CG189 NICE guideline on '*Obesity*: *Identification*, *Assessment and Management*' was updated (1). To illustrate the likely impact on clinical care of these updated NICE guidelines requires exploration across three themes: (I) compassion; (II) awareness, and; (III) adaptability.

Compassion

Obesity is a stigmatised condition, expression of which is pervasive and manifests through multiple media (advertising, news outlets, the internet, social media, and the political and public health landscape) (3). Such widespread societal stigmatising views on obesity have negative consequences for people living with obesity, that include psychological, physical, and socioeconomic harm (3). This can stymie effective lifestyle management (including feelings of embarrassment and low self-esteem) and engagement with obesity services. Furthermore, stigmatising views on obesity tend to become self-propagating, resistant to change,

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implicitly acknowledged and often remain unquestioned (3). The gaping chasm between the overwhelming demands of obesity management and its woeful under-funding reflects, at least in part, the dispassionate society in which we, and healthcare decision-makers, live.

To tackle the societal stigma of obesity, we need to first acknowledge its presence and then foster compassion. This will require a multi-faceted and concerted effort across multiple institutions, including our schools. There is a need for a clearer understanding of the complex pathogenesis of weight-gain and obesity. To diminish 'them and us' mentality, society needs to understand that no one is immune from weight gain and the development of obesity. The gradual replacement of obesity-related stigma with compassion will benefit society and those living with obesity. The updated CG189 NICE guidelines for obesity (1) recognise stigma through advocating obesity-related discussions in a sensitive manner and asking the person's permission before talking about this topic. This recognition and encouragement to adopt a more compassionate approach to obesity management by NICE should be both welcomed and applauded.

Awareness

A key update in the CG189 NICE guidelines for obesity (1) is an emphasis on the encouragement of adults with a body mass index (BMI) <35 kg/m^2 to measure their own waist-to-height ratio for the assessment of abdominal fat, and to seek advice from a healthcare professional if this measurement indicates an increased heath risk (defined as a ratio ≥0.5). There are multiple potential implications for clinical care that stem from such an approach. The first is that this modification, rather than being directed at healthcare professionals, speaks directly to the population. This is important as such an approach re-directs a locus of control and responsibility from the healthcare professional towards the person living with obesity. Avoidance of dependency and encouragement of support in any relationship (including those between healthcare professionals and people living with obesity) is important. Support (rather than dependence) is what is required from healthcare professionals for people living with obesity. An emphasis on self-control will facilitate a supportive context for interactions between those living with obesity and healthcare professionals, in addition to encouraging improved self-efficacy and self-esteem. A further benefit of self-measurement of the waist-to-height ratio is that this will improve self-awareness and will also help to facilitate a more proactive approach to the self-identification of obesity. In turn, this will encourage people living with obesity with an increased health risk to seek appropriate healthcare advice and support.

A focus on the waist-to-height ratio (rather than the BMI) also provides a useful indicator of metabolic health. BMI pervades nearly every aspect of obesity, including its definition, criteria for bariatric surgery (4), and the CG189 NICE guidelines for obesity management (1). Originally conceived by Quetelet in the 19th Century, since the mid-1980s and following a National Institutes of Health Consensus, BMI has been used as a clinical tool for patients with obesity (5). On an individual level, the use of BMI to reflect cardiometabolic health risks that stem from excessive adiposity is inherently flawed (6,7). The CG189 NICE guidelines for obesity (1) intimate such a concern by referring to older patients who may have diminished muscularity or even sarcopenia, and who may present with a 'normal' BMI in the context of excessive adiposity (7). Conversely, those with excessive muscularity may have a relatively high BMI but lack excessive adiposity (7). A further problem with BMI is that it loses accuracy at extremes of height as body volume scales with the cubed exponent of height (rather than the squared component of height that is used for BMI) (7,8). Finally, BMI provides no indication of body fat distribution, and specifically visceral fat content that is known to confer cardiometabolic risk (9).

Compared with BMI, visceral fat represents a useful indicator of cardiometabolic health (9). Waist circumference correlates with visceral fat content (10), and the waist-to-height ratio takes account of variations in height within the population. Accordingly, the CG189 NICE guidelines for obesity (1) to advocate self-measurement of waist-to-height ratio within the population, and for healthcare professionals to 'interpret BMI with caution because it is not a direct measure of central adiposity', should be encouraged and applauded. Furthermore, a cut-off of 0.5 in the waist-to-height ratio to indicate increased health risk is simple and easy to remember. Other important contributors to insulin resistance and cardiometabolic risk, including ectopic fat (11) and the inflammatory status of adipose tissue (12), should be explored further in the context of the waist-to-height ratio.

Adaptability

As a key recommendation for research, the CG189 NICE guidelines for obesity (1) pose a question regarding accurate

and suitable measurements and boundary values to assess the health risks of obesity in the context of different ethnic origins. In a recent population-based cohort study based on >1.47M people living in England, it was demonstrated that for the equivalent age- and sex-adjusted incidence of T2D at a BMI of 30 kg/m^2 in white populations, the BMI cut-off in south Asian populations was 23.9 kg/m^2 (13). Accordingly, ethnicity-specific BMI cut-offs require revision to optimise the early diagnosis, timely management, and prevention of T2D and other obesity-associated dysmetabolic sequelae (13). As per the CG189 NICE guidance, future studies should further assess the cardiometabolic meaningfulness of BMI across categories that include ethnic origin. These data should instruct a more refined and flexible application of BMI in the future, with eligibility for obesity management strategies (and even the definition of obesity itself) based on cardiometabolic risk rather than BMI *per se*. In short, we need to be adaptable in our future approach to obesity management and definition. Indeed, the American Association of Clinical Endocrinologists (AACE) published recommendations to recognize a need for a more medically meaningful and robust definition of obesity, and for management targets to include weight-related complications and quality of life (14).

We are at the dawn of a sea-change in our therapeutic armamentarium for obesity management, with the recent launch of tirzepatide as a dual glucagon-like peptide-1 (GLP1) and gastric inhibitory polypeptide (GIP) incretin agonist, and multiple other incretin and intestinal polypeptide agonist therapies in development (15). Our current era of obesity pharmacotherapies punctuates a transition between a chequered history and a propitious future characterised by a choice of highly effective pharmacotherapies that rival even bariatric surgery. Such novel pharmacotherapies will facilitate a bespoke and personalised approach to obesity management, to effect both body weight loss and maintenance, and improvements in cardiometabolic status and cardiovascular risk. Future NICE guidelines for obesity management need to be adaptable and responsive to the inevitable influx of novel drug therapies and clinical trials, with a broadening of outcome data that extends well beyond mere weight loss.

Finally, as healthcare professionals, we need to embrace the principles of compassion, awareness and adaptability endorsed by the latest CG189 NICE guidelines (1), to optimise the management and wellbeing of people living with obesity.

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