

**Tirzepatide – A major breakthrough in the fight against obesity**Ume Habiba,<sup>1</sup> Amna Iqbal,<sup>2</sup> Satish Kumar<sup>3</sup>

Madam, inflating numbers of sufferers of Type 2 Diabetes and obesity have led scientists to coin the term 'diabesity,' which signifies a pathogenic link between obesity and diabetes. Obesity, defined as a BMI of at least 30 kg/m<sup>2</sup>,<sup>1</sup> is a complex, chronic, relapsing illness characterized by an excessive fat build-up. According to the World Obesity Atlas, one billion people will be obese (BMI 30kg/m<sup>2</sup>) by 2030.<sup>2</sup> Obesity is not an illness. Still it is a substantial risk factor for cardiovascular disease and Type 2 diabetes, which are major morbid disease burdens.<sup>1</sup> Obesity has genetic, biological, psychological, social, economic, and environmental bases. A complex network of neurohormonal, physiological, and behavioural systems that regulate body weight, combined with different risk factors that impair weight loss pathways, renders lifestyle therapy ineffective in managing obesity. Several clinical guidelines now promote anti-obesity treatments for successful management and considerable outcomes.<sup>3</sup>

Considering a recent study published on June 4th from a phase three Randomized Control Trial conducted in nine countries, Tirzepatide, originally used to treat diabetes, showed efficacy and safety as an anti-obesity medicine in 2539 non-diabetic patients. When combined with Glucose-dependent Insulinotropic polypeptide and Glucagon-Like Peptide-1 Receptor Agonist, weight-loss efficacy increased. The trial assigned individuals to receive Tirzepatide or placebo subcutaneously once weekly for 72 weeks. In the SURMOUNT-1 research, subjects on 5mg, 10mg, and 15mg lost 35.5lbs, 48.9lbs, and 52lbs, respectively, compared to 5.3lbs on placebo. Compared to the 35% of placebo-takers who dropped 5% or more weight, those taking the medication at 5mg, 10mg, and

15mg lost 85%, 89%, and 91%. In the intervention group, waist circumference, blood pressure, insulin, cholesterol, and aspartate aminotransferase also improved. No direct trial has compared Tirzepatide to Semaglutide or bariatric surgery, but the findings imply it's more effective than the current anti-obesity therapies. However, mild to moderate gastrointestinal side effects do happen.<sup>4</sup>

By 2030, Pakistan's obesity pandemic will have reached a peak of 12.9%.<sup>2</sup> This, coupled with the fact that we have the highest Diabetes rate in South Asia,<sup>5</sup> makes these findings a huge milestone since Tirzepatide can act simultaneously as an anti-diabetic and anti-obesity drug. However, because the drug must be prescribed for an extended period, more testing is required before it can be made available to the public. The cost must also be considered to ensure affordability. Nonetheless, the study's findings are encouraging and may lead to novel obesity and diabetes care methods.

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