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SYNERGISTIC IMPACT OF EXERCISE AND GLP-1 RECEPTOR AGONIST TREATMENT: ADDRESSING METABOLIC SYNDROME, ABDOMINAL OBESITY, AND INFLAMMATION

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Authors' contribution:
A. Study design/planning
B. Data collection/entry
C. Data analysis/statistics
D. Data interpretation
E. Preparation of manuscript
F. Literature analysis/search
G. Funds collection

Dear Editor,

We are eager to share the findings from a recent article that we had the pleasure of reading, which we believe holds profound significance. Authored by Sandsdal et al. [1], this randomized controlled clinical trial delves into the impact of a combination of exercise and GLP-1 receptor agonist treatment on the severity of metabolic syndrome, abdominal obesity, and inflammation.

The escalating prevalence of overweight and obesity has emerged as a prominent catalyst for the surge in chronic, non-communicable illnesses worldwide. In contemporary understanding, overweight and obesity are regarded as chronic ailments. Beyond the physical health implications, individuals grappling with these conditions often face psychological and social challenges. They contend with societal biases, experience discrimination in personal and professional spheres, grapple with diminished self-esteem, and are susceptible to depression [2,3].

During the trial [1], over an 8-week period, 195 adults diagnosed with obesity but not diabetes underwent a low-calorie diet regimen of 800 kcal/day, resulting in a 12% reduction in body weight. Following this, participants were randomly assigned to one of four treatment arms for a year: placebo, moderate-to-vigorous exercise (requiring a minimum of 150 minutes per week of moderate-intensity activity, 75 minutes per week of vigorous-intensity aerobic exercise, or a proportional blend of both), the GLP-1 RA liraglutide at a dose of 3.0 mg/day, or a combined approach involving both exercise and liraglutide.

The findings of this study are highly intriguing. Following diet-induced weight loss, the severity of metabolic syndrome, as indicated by the Metabolic Syndrome Severity Z-score (MetS-Z), was reduced; a reduction that persisted

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in both the placebo and exercise groups after one year. Moreover, treatment with liraglutide alone and in combination with exercise led to further decreases in MetS-Z compared to the placebo group. In addition, abdominal fat percentage decreased by 2.6, 2.8, and 6.1 percentage points in the exercise, liraglutide, and combination groups, respectively, compared to the placebo group. Notably, levels of hsCRP decreased only in the combination group when compared with the placebo group.

We find these results particularly captivating, given the multifaceted effects observed. Each of these outcomes holds significant promise in the context of reducing cardiometabolic risk. The combined reduction in metabolic syndrome severity, abdominal obesity, and inflammation suggests a comprehensive approach to addressing underlying factors contributing to cardiovascular and metabolic health [4]. It's worth highlighting that the use of glucagon-like peptide-1 receptor agonists (GLP-1 RAs) in isolation has demonstrated both safety and efficacy. Beyond facilitating weight loss, these agents have shown promise in mitigating risk factors associated with cardiovascular disease. Notably, they have been linked not only to improvements in body weight but also to favorable alterations in blood pressure and lipid profiles [5]. This holistic impact underscores the potential of such interventions to yield substantial benefits in mitigating overall cardiometabolic risk.

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