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Pharma's Obsession With Obesity On Rise

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Obesity is a rapidly growing global health issue. According to the World Obesity Federation, approximately one billion people worldwide will be affected by obesity by 2030. Obesity has become big pharma's latest obsession, with significant interest and investment in this space. Both big pharma and small startups are jumping into the race, investing billions in combating obesity. Let's delve deeper into what's driving the appetite for obesity drugs.

Novo Nordisk gained approval for semaglutide, branded as Wegovy, for chronic weight management in 2021. Eli Lilly followed in 2023 with tirzepatide, marketed as Zepbound. These drugs were an instant hit, to the extent that the companies struggled to keep up with the demand. The blazing success of weight loss drugs like Wegovy and Zepbound has fueled intense interest in new obesity treatments. There are a total of 124 drugs in development for obesity: 61 in phase 1, 47 in phase 2, 7 in phase 3, and 8 already on the market, according to IQVIA.

While Eli Lilly and Novo Nordisk lead the market, other major players such as Amgen, Roche, AstraZeneca, and Boehringer Ingelheim have also joined the fray.

Zealand Pharma and Boehringer Ingelheim have collaborated on survodutide, a drug targeting GLP-1 and glucagon, showing promising early results. It is currently undergoing phase 3 studies.

Amgen's leading obesity candidate, AMG 133, has demonstrated promising results in early trials. The firm is now planning phase 3 trials.

Swiss pharmaceutical giant Roche made its foray into the weight loss sector by acquiring the American biotech Carmot for $2.7 billion. This acquisition added three clinical-stage obesity programmes to Roche's portfolio, including CT-388, an injectable GLP-1, and CT-996, an oral GLP-1.

Pfizer, despite shelving its late-stage candidate due to significant side effects, remains optimistic about advancing next-generation obesity drugs.

Obesity is described as a trillion-dollar healthcare issue, and a $100 billion dollar market opportunity for pharma companies, making it a lucrative revenue stream for big pharma, which is forever in search of blockbuster drugs.

“The size of the opportunity in terms of total addressable market is unprecedented. Obesity and type 2 diabetes is a rapidly increasing problem. It has been estimated that half of the world’s population will be overweight or obese by 2035, including 70 per cent of adults in the US. In addition, the number of obesity-related comorbidities that these drugs treat is staggering. From sleep apnea, fatty liver disease, diabetes, cardiovascular disease, musculo-skeletal disorders associated with weight, etc. These chronic conditions place a huge financial burden on the healthcare system, and these drugs have proven to be extremely effective in addressing these problems. The drugs are also turning out to be used on a long-term basis, so it is not curative but requires ongoing therapy which is recurring revenue for pharma companies,” said Patrick Smith, President, Certara Drug Development Solutions, at Certara. Certara revolutionises drug discovery and development with biosimulation software and services, serving over 2,400 clients.

It is worth noting that most current treatments for obesity, such as GLP-1 receptor agonists like semaglutide, were initially designed for type 2 diabetes. GLP-1 agonists, including dual and triple-agonists, are anticipated to remain the predominant mechanisms of action in obesity treatment. Nevertheless, researchers are also exploring alternative approaches for combating obesity.

“There is a wealth of obesity treatments currently in clinical trials, which indicate potential directions that pharmaceutical intervention may take in the future. Several new GLP-1 receptor agonists are under investigation, individually as well as in combination with other mechanisms, such as GIP and glucagon agonists. Developing small molecule, orally effective agents in the GLP-1 receptor agonist class is a particularly compelling avenue, as these may alleviate the need for injection. Amylin, which signals satiety and slows gastric emptying, is another hormone of interest, for which researchers are exploring the potential of analogues and receptor agonists. There is also interest in the use of tocotrienols to increase expression of adiponectin and, as a result, aid in addressing insulin resistance. While these are only a sample of anti-obesity medications in development, the overall trend is in promoting appetite reduction and satiety,” said Simon Bruce, Vice President of Internal Medicine and Drug Development Solutions, ICON, a leading CRO.

The trend is gaining momentum, especially since previous weight loss drugs had limited success.

“Historically, methods of treating obesity have been limited. Lifestyle modification – such as diet, exercise and behavioural therapy – rarely takes into account significant risk factors, including genetics, environment and other elements outside a patient’s control. And lifestyle modification, alone, has been found to be insufficient in achieving lasting weight loss. Case in point: Patients who lose weight through lifestyle changes typically regain 80 per cent of weight lost within five years. Pharmacological intervention is an important option for obesity treatment. Recent developments, including the approval of GLP-1 receptor agonists, such as semaglutide, to treat obesity have sparked excitement in the field,” said Jack L Martin, Senior Director, Cardiovascular Therapeutics, Drug Development Solutions, ICON.

Improved efficacy

Before the early 2010s, physicians had limited options for prescribing obesity treatments, with phentermine being one of the oldest approved in 1959. Research in the early 2000s led to the approval of three more treatments: Qsymia, Belviq, and Contrave in 2012 and 2014. While these drugs showed greater weight loss compared to placebos in trials, their effects were considered modest, leading to limited adoption. Qsymia faced safety concerns such as foetal toxicity and heart issues, while Belviq was withdrawn in 2020 due to potential cancer risks. Not only that, earlier approved drugs resulted in 2-10 per cent weight loss, but newer drugs like Wegovy and Zepbound have demonstrated substantial results, achieving up to 20 per cent weight loss.

“Obesity is a complex disease that requires long-term management. However traditional approaches to obesity are failing – 2 out of 3 people are unable to maintain weight loss. But a new generation of drugs - GLP-1RAs (Glucagen-Like Peptide 1 receptor agonists) - are giving doctors and their patients a new and clinically beneficial way to tackle obesity, achieve immediate health benefits and mitigate an obesity crisis,” said a spokesperson from Novo Nordisk.

Developments in APAC region

Several companies in the APAC region have also joined the bandwagon to develop obesity drugs.

Japan’s Shionogi is advancing S-309309, an anti-obesity drug now in Phase 2 after completing Phase 1 trials.

Chinese firms are also at the forefront. China-based Innovent has a licensing agreement with Eli Lilly for the development and commercialisation of mazdutide 9 mg in China. Another Chinese firm, Sciwind Biosciences Co., Ltd., is developing obesity treatments, including injectable ecnoglutide (XW003) in Phase 3 for T2DM patients, and oral ecnoglutide (XW004) is in Phase 1. Some candidates under development in China are drawing interest from pharma giants. AstraZeneca announced its entry into weight loss last year by licensing a candidate from Chinese company Eccogene, currently undergoing early-stage clinical testing. The deal is valued at $1.825 billion.

South Korean firms too are leading in obesity drug development. Hanmi Pharmaceutical, among the pioneers, is advancing clinical trials for its homegrown anti-obesity drugs. Expected to launch by late 2026 or early 2027, Hanmi's first drug, HM11260C (efpeglenatide), has been in Phase 3 trials since January last year. The company has also received FDA approval for a Phase 1 trial of HM15275, a novel long-acting triple agonist targeting GLP-1, GIP, and glucagon receptors. Additionally, HK inno.N is competing with Hanmi Pharmaceutical to introduce South Korea's first anti-obesity drug, partnering with Chinese company Sciwind Biosciences in a Phase 3 trial in China. Other Korean companies in early stages of obesity drug development include Daewoong Pharmaceutical, Dong-A ST., and Yuhan.

Elsewhere in the region, Indian firm Sun Pharmaceuticals is developing GL0034, an experimental NCE for treating type 2 diabetes and obesity. Meanwhile, Taiwan’s Caliway is currently conducting phase 3 trials for CBL-514, a small-molecule injectable aimed at reducing subcutaneous fat.

Indian and Chinese pharmaceutical companies are also racing to develop biosimilars, aiming to offer more affordable alternatives to these expensive drugs which can cost over $1,000 per month. No weight-loss biosimilars have been approved in India so far, but Glenmark Pharmaceuticals launched Liferaft, a liraglutide biosimilar for treating type 2 diabetes for Rs 100 per day (approximately $1.20), 70 per cent less than existing therapies. Meanwhile, Biocon has developed a liraglutide biosimilar approved by the UK drug regulator for type 2 diabetes, though it is not yet available in the market.

China’s drug administration has approved two GLP-1 drugs produced by Chinese companies. The first is a liraglutide biosimilar marketed as Liluping, made by Huadong Medicine in Hangzhou. The second is beinaglutide, marketed as Feisumei by Benemae Pharmaceutical Corporation in Shanghai.

These drugs are crucial in addressing the escalating obesity crisis, with current statistics showing that 1 in 7 adults worldwide live with obesity, a number that continues to rise among children and young people. Obesity is associated with heightened risks of diseases like type 2 diabetes, heart disease, and certain cancers. Without effective intervention, the economic costs of overweight and obesity are projected to surpass $4 trillion globally by 2035, according to The World Obesity Atlas 2023.

“Obesity is a ‘gateway’ disease that is linked to a large number of complications and disorders – some of which may impact life expectancy and health-related quality of life. Weight loss is associated with notable health benefits and improvement in various complications arising from obesity. However, current pharmacotherapy treatment options for weight management are limited, and we believe there is a need for additional effective treatment options that can help people living with obesity and obesity-related complications,” said a spokesperson from Novo Nordisk.

As research and development of these drugs mature, they will reshape not only the treatment of obesity but also our understanding of the disease.

“Due to the complexity of obesity as a disease, and the difficulties inherent in maintaining weight loss, in many cases one single solution is not enough. Instead, it may require a blend of different approaches or medications to affect the desired outcomes for a patient. Most of our survey respondents (64 per cent) believe the focus of future obesity therapies will be combination therapies to treat obesity and comorbidities,” signs off Simon.

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