Will the Ozempic Era Change How We Think About Being Fat and Being Thin?

A popular, growing class of drugs for obesity and diabetes could, in an ideal world, help us see that metabolism and appetite are biological facts, not moral choices.

By Jia Tolentino March 20, 2023

GLP-1 drugs effectively inject a sense of satiety, and also slow the rate at which food empties out of the stomach.Illustration by Yadi Liu

The ideal female body of the past decade, born through the godless alliance of Instagram and the Kardashian family, was as juicy and uncanny as a silicone-injected peach. Young women all over the Internet copied the shape—a sculpted waist, an enormous ass, hips that spread generously underneath a high-cut bikini—and also the face atop it, a contoured hybrid of recognizably human mannequin and sexy feline. This prototype was as technologically mediated as the era that produced it; women attained the look by injecting artificial substances, removing natural ones, and

altering photographic evidence.

Dana Omari, a registered dietitian and an Instagram influencer in Houston, has accumulated a quarter of a million followers by documenting the blepharoplasties, breast implants, and Brazilian butt lifts of the rich and famous. Recently, she noticed that the human weathervanes of the social-media beauty standard were spinning in a new direction. The Kardashians were shrinking. Having previously appropriated styles created by Black women, they were now leaning into a skinnier, whiter ideal. Kim dropped twenty-one pounds before the Met Gala, where she wore a dress made famous by Marilyn Monroe; Khloé, who has spoken in the past about struggling with her weight, posted fortieth-birthday photos in which she looked as slim and blond as a Barbie. All over Instagram, the wealthy and the professionally attractive were showing newly prominent clavicles and rib cages. Last spring, Omari shared with her followers the open secret behind such striking thinness: the Kardashians and others, she insisted, were likely taking semaglutide, the active ingredient in the medication Ozempic. "This is the 'diabetic shot' for weight loss everyone's been talking about," she wrote. "Really good sources have told me that Kim and Khloé allegedly started on their Ozempic journey last year." Omari was about to start taking a version of the medication herself.

Ozempic, which is manufactured by Novo Nordisk, is part of an expanding class of drugs called GLP-1 receptor agonists, which have dramatically altered the treatment of diabetes and obesity. Ozempic is approved by the Food and Drug Administration only for the treatment of Type 2 diabetes—a condition that accounts for ninety per cent of all diabetes cases—and has been available since 2017. Its name is now shorthand for the entire category of weight-loss injections. In 2021, Novo Nordisk received approval for Wegovy, which has the same active ingredient as Ozempic but comes with a higher maximum dose, as an anti-obesity drug. On a year-end earnings call in 2022, Novo Nordisk cited worldwide market growth of fifty per cent, with almost forty thousand new Wegovy prescriptions being written every week.

The drugs mimic a hormone called glucagon-like peptide-1, which stimulates insulin production and suppresses the production of glucagon, which raises blood sugar. The body naturally releases GLP-1 after a meal, and the hormone travels to the brain, triggering the feeling of fullness. GLP-1 drugs effectively inject that sense of satiety, and also slow the rate at which food empties out of the stomach; patients generally report a freedom from cravings and an inability to overeat without becoming ill. “I’m convinced that this basically replaced a signal my body has been missing my whole life,” a commenter in a Reddit group for people using semaglutide wrote recently. “All I can say,” a member of an

online group called Lose the Fat wrote, “is that it is no wonder that skinny people think heavy people have no willpower. Their brains actually do tell them to stop eating. I had no idea.”

More than forty per cent of Americans are obese, and eleven per cent have been given a diagnosis of Type 2 diabetes. Both conditions involve metabolic dysfunction: Type 2 diabetes is characterized by resistance to insulin, a trait that tends to develop as a person gains fat; insulin resistance leads to high blood sugar, which increases the risk of stroke, heart disease, nerve damage, and more. Obesity is correlated with, among other things, higher rates of cancer, sleep apnea, and liver disease. For people living with these risks, the new medications may be a godsend. “These drugs are groundbreaking,” Dr. Cole Barfield, an internal-medicine specialist in Nashville, told me, noting that they can spur greater weight loss and more effectively decrease blood-sugar levels than previous frontline treatments—and, unlike many other medications for these conditions, they do not put patients at risk of major cardiovascular events.

There are, however, complications. Initial side effects (diarrhea, vomiting, constipation, dizziness, nausea) can be gnarly enough to send people to the E.R. Patients can also experience hair loss, a result that—like the gaunt look that has been termed, not without Schadenfreude, “Ozempic

face"—is caused by rapid weight loss rather than by the drug itself. In rare cases, patients might develop renal failure, pancreatitis, or intestinal obstruction. Also, GLP-1 drugs are expensive—often more than a thousand dollars a month out of pocket—and insurance companies frequently refuse to cover them. (Weight-loss drugs are not required to be covered by Medicaid.) Still, about a year ago, Barfield noticed an influx of patients who came in asking for Ozempic by name. "I'd guess this was probably when people started posting TikToks about the celebrities being on it," he said.

"Everyone is suddenly showing up 25 pounds lighter," Andy Cohen, the TV producer who created the "Real Housewives" franchise, tweeted in September. "What happens when they stop taking #Ozempic?????" Celebrities have generally denied the accusation. "I get up 5 days a week at 6am to train," Khloé Kardashian wrote on Instagram. "Please stop with your assumptions." Omari stifled a giggle when I asked her about such denials, which tend to be, subtly or otherwise, less than categorical. One can, and should, exercise in addition to taking GLP-1 drugs. And you can say you're not taking Ozempic if you're actually taking Mounjaro—a newer, similar drug, manufactured by Eli Lilly & Co., that is producing even more drastic results in clinical studies—or if you're getting an off-brand version of the medication from a compounding pharmacy. Such pharmacies, which offer custom medications, often make drugs for people who have

allergies to common ingredients, or who need commercially unavailable dosages, or who can swallow a liquid but not pills. But they are also allowed to compound drugs that are on a list kept by the F.D.A. of drugs that are in short supply, as low-dose Ozempic now is. (The shortage is not of the medication but of the devices used to inject it, which Novo Nordisk has not been able to manufacture fast enough to meet demand.) “I’m on compounded semaglutide, and I will tell you, I eat like a toddler,” Omari told her followers in January.

It is possible to imagine a different universe in which the discovery of semaglutide was an unalloyed good—a powerful tool to untangle the knot of genetic tendencies, environmental forces, and behaviors that conspire to make more and more Americans gain weight. We might recognize metabolism and appetite as biological facts rather than as moral choices; rising rates of Type 2 diabetes and obesity around the globe could be reversed. In the actual universe that we inhabit, the people who most need semaglutide often struggle to get it, and its arrival seems to have prompted less a public consideration of what it means to be fat than a renewed fixation on being thin.

In the Renaissance and for centuries afterward, the Platonic ideal of the female body in the West was defined by proportionality: Rubens’s expressive fleshiness, the gentle

undulations of Botticelli's Venus. Then the Industrial Revolution produced increasingly sedentary life styles and easier access to food, not to mention standardized dress sizes. The diet industry roared to life: thyroid extract was packed into pills and sold under names such as Corpulin and Frank J. Kellogg's Safe Fat Reducer; there were "reducing salons" where women could have their flesh rolled and squeezed by machines. Women's magazines enshrined the idea that high-class whiteness could be expressed through a thin body, and articulated a horror of fat and of cultures that valued it. An essay published in *Harper's Bazaar* in 1897 refers to fatness as a "crime" and a "deformity," and argues that a fat woman "will not be a social success unless she burnt-cork herself, don beads, and then go to that burning clime where women, like pigs, are valued at so much a pound."

People have been pushing back against fat stigma since at least the nineteen-sixties, when activists staged a "fat-in" at the Sheep Meadow in Central Park. But the desire to achieve thinness by any means necessary—amphetamines, grapefruit diets, SlimFast—remains an almost foundational tenet of female socialization. When I was a preteen, in the heroin-chic nineties, pro-anorexia Web sites proliferated on the Internet; in the early two-thousands, teen girls puked or did obsessive sit-ups or took Hydroxycut in pursuit of abs like Britney Spears's. In the twenty-tens, even as the

Kardashians ostentatiously displayed their curves, they sold Flat Tummy Co. teas—laxatives—and waist trainers. And young women now are just a tap away from a never-ending social-media parade of aspirational bodies. A Harvard study, drawing on data from the Implicit Association Test, which asks people to sort words and images into “good” and “bad” categories, found that implicit bias against fat people actually grew from 2007 to 2016, with eighty-one per cent of people exhibiting it by the end of the study. Every other implicit bias in the study—regarding race, gender, sexual orientation, age, and disability—waned during that period.

The cultural fear of fat plays a role in the negative outcomes associated with it. Doctors—about a third of whom, in one study, reported viewing their obese patients as “sloppy” and “lazy”—frequently misdiagnose, undertreat, or shame fat people, who then accumulate reasons to distrust medical care. (In one notable case, a forty-six-year-old woman went to see an obesity specialist at Georgetown University, complaining of shortness of breath; he told her she should go on a diet. It turned out that she had life-threatening blood clots.) Obesity correlates with poverty, and Black and Hispanic adults are more likely to be fat than white ones; the general attitude toward fat people allows an aversion to poor people and nonwhites to be expressed as moral concern. The belief that fatness in itself is neither ugly nor alarming is sometimes misinterpreted, ingenuously or otherwise, as a

complete disregard for the connection between health and weight gain. I recently went to a doctor's appointment in uptown Manhattan, during which it came up in conversation that I was writing about Ozempic. The doctor put down her stethoscope and turned to me. "You know, I love Lizzo," she said immediately. "But it's a shame that this whole body-positivity movement has made so many people think that it's O.K. to be obese."

In fact, both thinness and fatness can be the result of disordered eating, and both are dangerous at the extremes. In 1958, a physiologist named Ancel Keys initiated a long-term study in seven countries concerning the relationship between diet and cardiac health; later, analyzing the data, he found that very thin and very heavy people carried the greatest risks for heart disease. But Keys concentrated his worry on obesity, a condition he referred to as "disgusting" and "repugnant." He revived something called the Quetelet Index—concocted in the nineteenth century by the Belgian mathematician Adolphe Quetelet, in an effort to identify the statistically average man ("the type of perfection," Quetelet called him)—and gave it a new name: the body-mass index. By the nineteen-eighties, B.M.I. had become the standard method of assessing a person's health via her weight.

Today, someone's weight is deemed healthy if her B.M.I. falls between 18 and 24.9; between 25 and 30, a person is

overweight; beyond that, she has obesity. But Quetelet's research subjects were European men, and his formula is less accurate at indicating the health of women and of people who are Black, Hispanic, or Asian. More generally, the index implies a precise weight-to-health correlation that does not actually exist. A recent study examined subjects' B.M.I.s in relation to their blood pressure, cholesterol levels, and insulin resistance. Nearly a third of people with a "normal" B.M.I. had unhealthy metabolic metrics, and nearly half of those who were technically overweight were metabolically healthy. About a quarter of those who were classified as obese were healthy, too.

A healthy body can generally signal to the brain when it has had enough food. But that signalling system can be faulty, or get injured. "One of the most important things about obesity, and something most people don't understand, is that, in the process of gaining weight, the neural circuitry of the brain that regulates weight is damaged," Dr. Louis Aronne, the director of the Comprehensive Weight Control Center, at Weill Cornell Medicine, told me. (Aronne, like many other prominent practitioners of obesity medicine, has consulted on trials conducted by Novo Nordisk.) "The hypothalamus shows signs of inflammation and injury," he went on. The prevailing theory, he explained, is that "too many calories coming in too quickly damages nerves that respond to the hormones that control body weight." One of these hormones

is leptin, which is produced in body fat, and which signals to the brain that it's time to stop eating. But, if you gain fat, the oversupply of leptin can cause your body to be desensitized to it, making your brain erroneously believe that you are starving. "Your body tries to rebalance the system by slowing down the metabolism and increasing appetite," Aronne said. After a person has gained enough weight to enter this cycle of metabolic misdirection, it becomes nearly impossible to lose that weight and keep it off long-term simply through diet and exercise. (About five per cent of people manage to do it.) A well-known study followed contestants on "The Biggest Loser," the weight-loss-competition show, and found that the contestants' metabolisms slowed so drastically after their weight loss that nearly all of them regained what they'd lost. One contestant, who'd dropped an astonishing two hundred and thirty-nine pounds, soon regained a hundred, and then began gaining weight whenever he ate more than eight hundred calories *less* than the average amount recommended for a man his size.

"No one in my family is skinny—we're just not built that way," Jamel Corona, a thirty-seven-year-old Mexican American mother of two in Illinois, told me. Corona had been overweight for most of her life, she said; she was a size 12 in sixth grade. "I've never had a bad relationship with food, and I've always worked out," she said. In college, she ate the

same amount as the girls she lived with in her sorority house, but she was bigger, and gaining weight. Later, when she got pregnant, she developed gestational diabetes. (Diabetes also ran in her family, with most of her aunts and uncles dealing with Type 2.) During her second pregnancy, she had to give herself daily insulin injections; her blood-sugar levels "just kept going up and up and up." After she gave birth, she gained forty pounds in her first three months postpartum. Her endocrinologist suggested Wegovy. "It was either that I try this, or that I would come back in six months and probably go on insulin again," she said.

Cartoon by Olivia de Recat

When Corona started on Wegovy, the side effects were awful—fatigue, nausea, months of severe insomnia. She joined a Facebook support group, where members counselled her that foods that were processed, fried, or high in carbohydrates or sugar tended to make people on GLP-1 medications feel sick. Corona told me, "If I tried to eat a whole burrito bowl at Chipotle, I would feel so physically ill I would have to call off work." She could no longer handle alcohol, and had little desire to drink it, another common side effect. "One day we went out to a brewery and I had three beers in four hours, and I was throwing up afterward, as drunk as if I'd had a whole keg," she said. "I decided to never have beer again." (Anecdotally, doctors and patients have reported that these medications can decrease a range of

dopamine-seeking behaviors, including online shopping.) She started hiking and running, which she hadn't been able to do when she was heavier; she went to the gym every day, first thing in the morning. At the time we spoke, she had been taking Wegovy for a year, and had lost fifty pounds. She told me she felt like an entirely different person, energized and strong.

"Let's be honest," she said. "I was not healthy at over two hundred and twenty pounds, being five-four." She needed something to get her back to a state of equilibrium, and semaglutide appears to have done it. "If we get past this as a celebrity-weight-loss headline story, and we see this for what it really is, it's revolutionary," she said. "In the future it might be like taking vitamins. Everyone's going to be on it."

This past November, I created an account on a telehealth Web site that looked as though it had been designed in about forty-five minutes using stock images and a free template. I filled out a form that asked for my height, my weight, and my reason for wanting semaglutide. I entered a weight that gave me a B.M.I. of 30. This was a lie, and I expected to be caught out during the Zoom appointment that I assumed was coming. Instead, a nurse practitioner named Nicole sent me a direct message laced with cheerful emojis. "My extensive experience allows me to provide a very wide range of services to you," she said, adding prayer

hands. She warned me that it was hard to get Ozempic covered by insurance; I replied that I would be happy to pay out of pocket.

"My patients, YOU, are suffering," she wrote back. She said that she could connect me with a compounding pharmacy to get me three months' worth of low-cost semaglutide. "This NEW alternate option I am providing is for ALL patients, even those with stubborn insurance, no insurance, or government insurance," she wrote. It would cost two hundred and fifty dollars, and the fee for my "visit" would be a hundred and fifty dollars. She thanked me for my patience "during this time when it is very difficult to obtain weight loss assistance." I asked if she would help me manage the side effects, but got no reply. I wrote again and asked to move forward with the prescription.

A few days later, I received a small cardboard box from Clearwater, Florida, in the mail. Inside was a baggie containing alcohol pads, orange-tipped single-use insulin syringes, and a vial of bacteriostatic water. Another baggie contained a two-inch vial of clear liquid—this was the semaglutide—plus a syringe with an alarmingly long needle and a single sheet of instructions for how to mix the semaglutide with the bacteriostatic water and inject myself.

The over-all vibe of this package did not inspire confidence. (Semaglutide is supposed to come in temperature-

controlled packaging, and it did not.) Still, when I told people about my semaglutide stash, they were intrigued. “Should I take it and be your guinea pig?” a friend asked. I reminded him that he was already skinny. “I’m Gigi Hadid skinny,” he replied. “I could be Bella Hadid skinny.” He was kidding, sort of.

I became curious whether I could get a prescription without lying about my weight. I found the Web site of a telehealth clinic advertising semaglutide, and, this time, entered my real height and weight, that of a woman who wears a size 4. A practitioner called me the next morning; I told him that I’d had a baby in 2020 and wanted to lose fifteen pounds. “Our program is meant for this exact kind of case,” he said. He discussed side effects—“the only one to really be worried about is mild nausea”—and told me that I wouldn’t need to do any blood work or visit a doctor. “It’s very mild, it’s a peptide,” he said. “It just balances everything out.”

Novo Nordisk has patented semaglutide, and the company has insisted that it does not sell the medication for compounding purposes, which raises the question of what compounding pharmacies are providing to their customers. These pharmacies have to comply with regulations set by state pharmacy boards and the F.D.A., and they are required to source ingredients from F.D.A.-registered suppliers, but the F.D.A. does not approve or verify compounded drugs,

and the pharmacies—there are about seventy-five hundred in the United States—are primarily monitored through inspections. The rules that govern them are, a prominent figure in the compounding industry told me, "under-enforced."

I wrote to the telehealth clinic and asked to be put in touch with its pharmacy. A co-owner of the clinic called me a few minutes later. He said that the pharmacy they used, which is also based in Florida, was selling semaglutide sodium—the salt form of the drug molecule, which is easily obtainable for bulk purchase online as a research chemical. Most drugs can be prepared in different chemical formulations, but the F.D.A. requires clinical studies of each formulation to prove safety and efficacy, and it has not approved semaglutide sodium for compounding. The Alliance for Pharmacy Compounding has suggested that semaglutide sodium "should not be used for human compounding," and is "not a substitute for semaglutide base." But the clinic owner insisted that, for the purposes of weight loss, semaglutide sodium was "the same thing," and that the business with the F.D.A. was just politics. "Ozempic is so expensive here because our health-care system is capitalistic," he said. "In socialistic health-care systems, in Europe, you can get a month's supply for a hundred and fifty dollars." (This is not far off—it costs about two hundred dollars in the United Kingdom.) He assured me that I could trust the Florida pharmacy and its products: it

was, he claimed, where all the Hollywood celebrities got their stuff. He also said that semaglutide sodium was in such high demand that the pharmacy was testing semaglutide acetate, which hasn't been approved for compounding by the F.D.A., either.

I asked the prominent figure from the compounding industry about the legality of compounding pharmacies using semaglutide sodium. He described it as a "gray area." "When you dissolve semaglutide sodium in water, you end up with semaglutide base and sodium ions," he said. He also insisted that "the F.D.A. knows this is going on, and they haven't said a word."

Eli Lilly and Novo Nordisk together have at least twelve more obesity medications in development. Novo Nordisk reportedly spent about a hundred million dollars advertising Ozempic last year, and the two companies are spending roughly ten million dollars annually on lobbying. A primary focus of that lobbying is the proposed Treat and Reduce Obesity Act, which has been introduced in congressional sessions annually since 2012, and which would require Medicare to cover, among other treatments, chronic-weight-management drugs. Anticipating the passage of this bill within the next few years, Morgan Stanley has forecast that U.S. revenue from such drugs will increase four-hundredfold by the end of the decade. Obesity looks "set to become the

next blockbuster pharma category," it declared, in a report last year, which also predicted that social media and word of mouth will create an "exponential virtuous cycle" around the new medications: a quarter of people with obesity will seek treatment from physicians, up from the current seven per cent, and more than half of those who do will begin taking medicine. In March, WeightWatchers acquired the telehealth weight-loss company Sequence, which specializes in prescribing GLP-1 drugs.

Controversially, the American Pediatric Association recently included weight-loss medication and bariatric surgery as part of a set of treatments that physicians should consider for kids with obesity. (Bariatric surgery, previously the only medical intervention that resulted in lasting weight loss for more than a small percentage of people, works in part because it, too, increases GLP-1 levels, and does so before any weight loss has occurred.) In clinical trials, patients who go off GLP-1 drugs regain much of their lost weight within a year. I asked Dr. Aronne, from Weill Cornell, about the possible medical consequences of irregular lifetime use, which seems to be a likely outcome for many patients, especially those who are prescribed the drugs at an early age. "That's a great question," he said, "and we don't have the answer." He suggested that doctors might begin treating obesity the way they treat hypertension. "You could start people on a tiny dose per week, and they would never get to

the place where they have catastrophic problems," he said. Patients would still need regular blood work and other monitoring; it's likely enough that, as these drugs come into use in a wider patient population than ever before, new risks and complications will arise. But to Aronne, who has treated patients with serious health complications related to weight for thirty years, a lifetime on Wegovy seems far less dangerous than a lifetime of severe obesity.

I had been wondering, I told Aronne, about the extent to which the excitement around this new class of drugs took the broader status quo more or less for granted. Many obesity-related health problems are worsened by circumstances that could be helped through policy—by raising the minimum wage high enough for people to afford fresh produce and high-quality protein, by investing in housing and community spaces that are conducive to recreation, by ending the billions of dollars in farm subsidies that go to junk-food additives, such as high-fructose corn syrup. "These things would work to prevent obesity, not treat it," Aronne said. "It would be like trying to treat lung cancer through a smoking-cessation program." This was the point I was trying to make—that we have an individual solution, but we need collective ones, too.

Omari, the Instagram-famous dietitian, is now off her compounded semaglutide, which she'd taken to shed some

pandemic pounds. She was optimistic that she'd be able to maintain her weight, as she'd generally been able to do before. But, as I kept reminding Ozempic-curious friends, these medications were designed for chronic conditions, obesity and diabetes. For people who are dealing with those conditions, Ozempic appears to create a path toward a healthy relationship to food. For those who aren't, it might function more like an injectable eating disorder. As the side effects make clear, it's not a casual thing to drastically alter your body's metabolic process, and there is no large-scale data about the safety of these drugs when taken by people who are mainly interested in treating another chronic condition, the desire to be thin.

Once Ozempic is off the shortage list, compounding pharmacies will no longer be allowed to sell semaglutide, but that doesn't necessarily mean they'll stop: the pharmacy in Clearwater that supplied my stash told me that they'd sold semaglutide before the shortage and would continue to do so after it ended. Jonathan Kaplan, who oversees the weight-loss program at Pacific Heights Plastic Surgery, in San Francisco, told me that he saw a "glimmer of hope" in tirzepatide, the active ingredient in Mounjaro: that drug is on the shortage list, too, and compounding pharmacies were already gearing up to sell it. In the meantime, Pacific Heights, which prescribes compounded semaglutide to patients who meet the medical criteria, and also provides blood-work

monitoring and life-style coaching, has warned the members of its mailing list that compounded semaglutide may soon become unavailable. “You may want to join our program now so that we can reserve a 6-month supply of the medication for you,” the clinic added.

Kaplan, a plastic surgeon, is better known on TikTok as @RealDrBae—in his videos, he wears navy scrubs monogrammed “*DR BAE*” and talks to the camera as though it’s his partner in an absorbing conversation at an airport bar. He believes that more people—a lot more people—are going to start taking GLP-1 drugs soon. He didn’t have in mind thin people who want to be thinner, he added; he was thinking about fat people who had been struggling with discomfort, with inconvenience, with social pressure all their lives, who might have lately felt encouraged to try to accept their heavier weight. He predicted that the Ozempic era would put an end to all that. “They’re no longer going to accept that they should just be happy with the body they have,” he said. ♦