Shorter communication

The humbling experience of treating obesity: Should we persist or desist?

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Work on treating obesity began in earnest in the 1970s. Taking the lead were established researchers such as Albert Stunkard and rising stars in behavior therapy such as Wilson and Mahoney who realized that randomized trials were necessary to advance the knowledge beyond speculation and anecdote. Others soon joined the effort and the field grew quickly.

The early results were not impressive, but the field was new and researchers focused on statistical significance, satisfied with small increments in weight loss and doing what the field demanded, follow-up periods of weeks rather than years.

By the 1980s the field had matured. Methods improved, longer surveillance of subjects was required, questions were raised about clinical significance, and a great many approaches were tested including family and worksite interventions, drugs, very-low-calorie diets, behavioral treatments, and various combinations thereof. Results improved somewhat from the early days, but progress was scant, weight losses still small, and maintenance poor.

Obesity as the great humbler

Fast forward more than two decades to the present. Hundreds more studies have been done, many by top figures in our field supported by many millions in grant funding. Are we better off?

The latest entry comes from the group at Oxford led by Christopher Fairburn and Zafra Cooper (Cooper et al., 2010), among the world’s leading eating disorders researchers. Based on years of research developing successful treatments for bulimia nervosa and binge eating disorder — some done in collaboration other fine scientists such as Walsh, Agras, and Wilson (Agras, Walsh, Fairburn, Wilson, & Kraemer, 2000; Fairburn et al., 1991), Cooper, Fairburn and colleagues derived a treatment focused on the maintenance of weight loss. Given the history of nearly every other treatment (except surgery), one would not assign high odds for success, but a fresh outlook brings fresh hope. Ultimately they, like others who preceded them, were humbled by obesity, concluding that, “…it is remarkably difficult to maintain a new lower weight following weight loss.” Another good research team brought to its knees by a problem that simply does not yield to treatment.

Two competing interpretations

How can we take this literature on obesity treatment, look at it honestly, and place it in a constructive perspective that helps set direction for the future? I see two fundamentally different perspectives, each one I find myself taking at different times.

The skeptical perspective

The first perspective is skeptical, even cynical. Weight losses have been and still are modest, are far less than what patients hope for, and are poorly maintained. Surgery produces large losses that can be well maintained, but has side effects, and most important, is expensive and will not be deployed on a large enough scale to have public health consequences. Large benefit to small numbers of people is generally not seen as affecting public health.

This lack of improvement is not from lack of trying. Some of the world’s top scientists, working in different countries, using different populations and interventions with different rationales and techniques, have taken part in this effort to subdue obesity by treating it.

How does a field cope with decades of having its best efforts thwarted? Most treatment researchers are clinicians themselves...
and appreciate the central role obesity plays in the lives of the people they see and how these individuals would do almost anything to lose weight. It disappoints us to see our patients disappointed, yet we soldier on even when the likelihood of success is small.

One way we cope is to reframe our impact by calling poor results good ones. Fueling this coping strategy was the discovery that medical benefit could be detected with relatively small weight losses, as low as 5% loss in body weight. Various terms arose to describe these weight losses, beginning with small but morphing to modest, moderate, and clinically significant. Descriptor inflation occurred to justify all the work. Our ability to produce lasting weight losses has stayed fairly constant, but our language implies more and serves to help us feel good when our patients do not.

The hard pragmatism perspective

There is an opposing view, also justifiable, that acknowledges the hard reality of treating obesity. Obesity is seen as a challenging lifestyle issue superimposed on complex biology, with its treatments akin to those for other difficult and refractory problems such as substance abuse, smoking, and serious psychopathology like major depression. However discouraging treatments for these problems might be, individuals deserve help, the problems exact a great toll the public’s health, so treatment researchers push ahead in the spirit of providing compassionate care for people in need.

The pragmatic approach is bolstered by knowledge about the strong forces that lead to regain. People begin weight loss programs with intense motivation to succeed. The stigma and bias directed at overweight people (Puhl & Brownell, 2001; Puhl & Heuer, 2009), and the glorification of thinness, create a powerful force propelling people forward, and when they do lose weight, feelings run from improved happiness to outright euphoria. What could be so powerful to undermine these factors?

Psychological issues such as using food for comfort may be an actor in some cases, but more clear are pervasive environmental and biological forces that make weight loss difficult and regain so likely. On the environmental front, large portions, ubiquitous access to nutrient-poor and calorie-dense foods, economic policies that favor the purchase of processed foods, relentless marketing, collusion of institutions such as schools in the sale of junk foods, and conditions that favor sedentary behavior begin a long list of conditions that make responsible decisions less and less likely.

At least as powerful may be biological changes that accompany attempts to reduce. Led by Rudolph Leibel, researchers have characterized the profound metabolic and hormonal changes that occur as obese individuals lose weight (Goldsmith et al., 2010). The body acts as if in starvation mode, increasing hunger, suppressing satiety, slowing metabolic rate and more — apparently using any means possible to defend higher body weights. A woman, for example, who reduces from 200 to 150 pounds will have a much different hormonal and metabolic profile than a woman who always weighed 150 pounds.

Added together, the environmental and biological pressures to eat and gain weight consistently trump individual motivation to change, self-discipline, and personal responsibility (Brownell et al., 2010). It may be less the case that our treatments fail than they must wage battle with forces they cannot subdue.

Positioning treatment of obesity

Certainly much has been learned from studies done over the past 4 decades. Methods for conducting treatment trials have improved considerably, follow-up periods have gone from weeks to years, and various combinations of treatments have been tried in hopes some synergy might exist.

But the stark reality is that treating obesity is not a way to help address the world’s obesity problem. For every person successfully treated there are dozens, hundreds or more likely ten of thousands becoming overweight from the toxic food and activity environment spreading around the world. Even if treatments were effective, cost would limit use on a broad scale.

People who are overweight deserve kind, compassionate, effective help. A parallel might be people who develop lung cancer. Success rates are low (the 5 year survival is about 15%), but people with the disease deserve every chance to be treated successfully, and few doubt the importance of ongoing research to improve rates of success. Treatment, however, will not affect the prevalence of lung cancer because so few people go from disease to non-disease states and because millions of people worldwide are becoming new cases. Changing the environment to limit exposure to the toxin (cigarettes), and hence preventing the disease, has long been considered the priority.

Obesity is now being seen in a similar light, where treatment is considered important for people who have the problem, but reducing prevalence has become the priority; treatment is not relevant for this aim. Ironically, it may the absence of success that creates the greatest impact of treatment studies, as they shine a beacon on the need for prevention.

A constructive reconciliation

Back to the two competing perspectives. Something can learned from each. It is important that the field be honest with itself and not declare victory when victory is so rare. True, some medical benefit can be detected with small weight losses, and with extreme investment of time, money, and personnel, as with the Diabetes Prevention Program and Look AHEAD trials, weight losses increase and additional medical benefits accrue (Knowler et al., 2009). But such investment will never be done widely, especially when weight regain is so common, so such trials are more instructive for documenting health outcomes of weight loss than offering a roadmap for how a nation might address obesity.

Cooper et al. end their paper with a provocative question about this issue of declaring victory. Concluding that their results are consistent with those of past studies, they say, “This is a sufficiently robust finding to make it ethically questionable to claim that psychological treatments for obesity ‘work’ in the absence of data on their longer-term outcome.”

One could question, although Cooper et al. do not, whether it is ethical to treat obesity at all. Work on weight cycling, known colloquially as “yo-yo” dieting, suggests there may be health risks associated with cycles of loss and regain (Lissner et al., 1991). Because most people who lose do regain, entry into a weight loss program more or less guarantees such a cycle.

What is missing is information on the natural history of people who do not receive treatment. If further weight gain is the typical course, a person who receives treatment but 3 years later has returned to baseline weight might be better off than someone left untreated. The lower risk produced by the lower weight must be balanced against any risk incurred by the cycle of loss and subsequent regain. The relative risk of these two patterns has not been adequately characterized, hence from a medical perspective it is difficult to know whether treatment of obesity “works.” Until some long-term risk benefit can be proven for people receiving treatment, it is a real stretch to say that loss and complete regain represents treatment working. From a patient’s point of view, loss and regain represent abject failure.

Cooper et al. object to the implication that treatments work when they do not — when there is not evidence of significant weight losses being maintained. This is a valid point. I suspect that
subjects in weight loss studies are given more hope and begin with more optimism than the anticipated results would warrant. This highlights the need of being honest with patients about their odds of achieving a given result. This is routine in medicine when it is possible to establish odds (e.g., the chances for remission from chemotherapy), but is not done with obesity treatment. Informing patients of their odds of achieving a 5 pound, 10 pound, or 50 pound loss, and the odds that some or all of this will be maintained would constitute disclosure consistent with the data.

The enterprise of treating obesity is necessary. Obese individuals need and deserve help. The long odds of developing highly effective treatments do not rule out the possibility that a breakthrough will come somewhere at some point. With that said, if the goal is to have fewer people struggling with obesity, and to reduce the associated societal costs, prevention must be the priority.

References


