The Dish on *Slimming Down*

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Presented at Primary Care Today, Satellite Symposia, October 4, 2003

The World Health Organization has declared the growing rate of obesity to be an epidemic in developed countries. In the U.S. and Canada, obesity rates are predicted to almost double within the next two decades. The co-morbid diseases associated with obesity (diabetes mellitus, hypertension, and coronary artery disease) will similarly increase.

Corporate America has also documented the impact of obesity in such areas as higher disability premiums, and near-tripling of absenteeism for employees with a body mass index > 27.[1]

The societal challenges

To be able to help our patients most effectively, we must first understand the societal factors that have contributed to obesity. We have, in North America, become a society of consumers with exaggerated expectations of our food purchasing power. We expect restaurant servings and processed food portions to represent "super-size value." The standard six-ounce soda from the '60s has been replaced by the 64-ounce "Super Big Gulp." Simultaneously, our progressing inactivity plays a growing role, as evidenced in the close correlations between obesity and hours of television viewing, Internet use, or the numbers of cars per household.

Another contributor has been the unique cultural phenomenon of dieting over the past 30 years. The popularity of the Scarsdale diet and its subsequent high-protein incarnations has spawned three decades of yo-yo dieting. Each diet is successively displaced by the talk-show appeal of the next fad's author. Clinicians have unwittingly encouraged this weight cycling by promoting the concept of "ideal" body weight. In the '70s, these ideals were derived from actuarial survival tables, provided by the Metropolitan Life insurance company. These targets led to unreasonable weight ideals that typically resulted in a diet "failure" and a subsequent retry, producing the chain of weight cycles that characterizes the weight patterns of so many of our middle-aged patients. In addition to the psychologic harm they can cause, very low calorie diets (VLCDs) result in a net loss of muscle mass, eventually impairing the dieter's resting metabolic rate (RMR). The first two weeks of a VLCD results in an average RMR loss of 450 kCal/day,[2] explaining both the plateau and the subsequent weight regain that 95% of dieters encounter.

Margaret's weight concern

Margaret, 54, presents because she has been unable to lose weight lately as easily as she has been able to in the past.

She is two years post-menopausal, and weighs 235 lb. She has a body mass index of 38. She has noticed that she is having more difficulty, in particular, reducing the inches on her waist. She has always dieted annually throughout her adult life. Over the years, she has managed a weight loss of 25 lb eight times. She is concerned that her hormone replacement therapy is causing her current weight problems. She would also like you to check her thyroid status. Finally, she's heard there are medications available to help with weight loss, and she would like more information about them.

Table 1
Three-pronged approach to obesity care

- Low-calorie/low-fat diets
- Increased physical activity
- Behaviour modification

Adapted from: Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in Adults. National Heart, Lung, and Blood Institute in cooperation with the National Institute of Diabetes and Digestive and Kidney Diseases. 1998.

What are the management guidelines?

As in other chronic diseases, such as hypertension and diabetes, obesity care is based on an extensive literature and evidence-based guidelines. The National Institute of Health (NIH) has published guidelines for primary care physicians that support a three-pronged approach to obesity care (Table 1). Recently, the U.S. Preventive Services Task Force (USPSTF) published an updated review of the literature and confirmed this approach, with a particular emphasis on high-intensity counselling (face to face, at least twice monthly), with behavioural therapy.[3]

Eighty-six randomized controlled trials have evaluated the effectiveness of different diets. Thirty-four examined LCDs (1,000 to 1,200 kcal/day). LCDs result in a mean 8% weight loss over six months with reduction in abdominal fat. VLCDs produce greater initial weight loss, but long-term (> one year) results do not differ from LCDs. The rapid weight loss seen in VLCDs may be associated with more adverse outcomes, such as cholecystitis and nutritional inadequacies, and are often followed by significant weight regain.

The primary care physician can direct the patient to healthier meal plans rather than restrictive diets through resources, such as Canada's Good Health Eating Guide, or through providers in our communities, such as registered dietitians. Physician visits alone have also proven effective in achieving weight loss. Useful office tools include reviewing patients' food intake records, which can be used to record location, hunger, and emotional state. Without an extensive nutritional knowledge base, the physician can identify behavioural issues, such as automatic eating, emotional eating, or organizational challenges (*e.g.*, poor meal planning).

Increased physical activity alone contributes a modest 2% to 3% to weight loss, but in combination with an appropriate diet, it can decrease abdominal fat and improve cardiorespiratory fitness, mood, self-esteem, and physical function in other daily activities. Any activity that reduces television or Internet time will be associated with weight reduction. Daily walking is an attractive and inexpensive option. Patients can start by walking for 30 minutes, three days a week, and can build to the current recommendations for optimal activity (45 minutes of intense walking, at least five days a week).

Again, the physician's role can be to review the planned physical activities (for safety and helping the patient set reasonable goals). For example, "I'm going to start walking next week" is far less effective than "I'll start walking twice around the block, on Tuesdays, Wednesdays, and Fridays, for 30 minutes after dinner

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Take-ho message

- In the U.S. and Canada, obesity rates are predicted to near-double within the next two decades.
- Very low calorie diets result in a net loss of muscle mass, eventually impairing the dieter's resting metabolic rate.
- Useful office tools include reviewing patients' food intake records, which can be used to record location, hunger, and emotional state.
- Behavioural strategies are important in reinforcing diet and activity changes, and can produce an approximate 10% weight loss over four months to one year.
- Hypothyroidism, contrary to popular belief, is associated with only modest weight gain of 3 kg to 7 kg.

with my spouse." The physician can also encourage an activity log and intermittently review it with the patient. The log becomes its own reward, as patients can quickly recognize their progress from earlier recordings.

Behavioural strategies are important in reinforcing diet and activity changes, and can produce an approximate 10% weight loss over four months to one year. In addition to self-monitoring, the physician can play a key role in developing strategies for stress management and stimulus control. Stimulus control might involve redirecting the energy of a stimulus, like Jay Leno's nightly appearance, away from the usual response of consuming three cookies. Cognitive restructuring, or self-talk, is a tool for this purpose suggested by the NIH guidelines. Self-talk refers to consciously interrupting our usual behaviour patterns, and inserting an alternate healthier pattern. The self-talk can often be done using the imaginary voice of a former coach or mentor who can provide the needed authority. An example may be replacing the usual "I blew my whole diet with that doughnut. I'm a failure!" with "Sure I should have avoided that doughnut, but it was just one mistake and I'm doing well generally."[4]

What are the medical obstacles to weight loss?

Physicians will find the overweight patient in various stages of change, from:

- Pre-contemplative (denial), to
- Contemplative, to
- Prepared, to
- Action.[5]

While patients in the latter two stages respond positively to physician intervention, patients in the earlier stages may still be preoccupied with the search for a pathologic cause for being overweight. In fact, secondary causes of obesity are extremely rare. Hypothyroidism, contrary to popular belief, is associated with only modest weight gain of 3 kg to 7 kg, and Cushing's syndrome presents with dysmorphic weight gain. Congenital syndromes that include obesity or hyperphagia are usually identified in childhood or adolescence. However, some disorders, such as sleep apnea, gastro-esophageal reflux disease (GERD), and osteoarthritis (OA), can be precipitated by obesity and play a perpetuating role in further obesity. Correction of apnea with continuous positive airway pressure is associated with weight loss. Similarly, correction of GERD is associated with a spontaneous reduction in food intake, as evidenced by studies examining consumption at food buffets. Anti-inflammatory therapy, physiotherapy, independence assistive devices, and chiropractic treatment may all reduce OA symptoms and increase function to optimize the potential for successful weight loss.

Medications for other diseases can also play a role in impeding weight loss. Tricyclic antidepressants (*e.g.*, desipramine, nortriptyline) and some selective serotonin reuptake inhibitor (SSRI) antidepressants (*e.g.*, paroxetine) have been associated with weight gain. Other culprits include lithium, antipsychotics, glucocorticoids and, in some studies, beta blockers.

What are the therapeutic interventions?

Two medications are indicated for weight loss in Canada: sibutramine and orlistat.

Sibutramine has been shown to produce an approximate 7% to 8% weight loss greater than placebo, and maintenance of weight loss over a two-year period.6 Common side-effects include dry mouth, constipation, insomnia, and a slight increase in blood pressure of 1 mmHg to 2 mmHg (blood pressure monitoring should be performed every two weeks in the first three months of use). In clinical use, in over 10 million patients, no unexpected adverse effects have surfaced. Long-term morbidity and mortality trials are underway.

Orlistat has been associated with a 4.1% body weight loss greater than placebo,7 and has the expected adverse effect profile of oily diarrhea and fecal incontinence.

Both products produce approximate doubling of response rates for users, and tripling if response is defined as a 10% weight loss.

A third medication, topiramate, has been associated with up to 13% of weight loss in seizure disorder patients[8] and in several case studies. Larger followup studies have been completed, confirming these preliminary findings.

Finally, meal replacements (*e.g.*, Slim-Fast™) have considerable literature demonstrating their efficacy as part of educating patients in healthy meal planning, with consistent weight loss of 8% to 10% over up to four years of once-daily use.

As effective as these medications are, their efficacy has been repeatedly shown to be dependent on the establishment of appropriate behavioural change, and improved diet and activity patterns. For example, investigators at the University of Pennsylvania have found that sibutramine alone can produce 10.8% weight loss versus 4.1% weight loss using a behavioural therapy program. However, the combination produced a remarkable 16.5% weight loss, confirming the importance of lifestyle change in achieving the goal of healthy weight loss for our obese patients. CME

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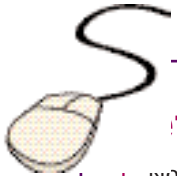

t Readings

1. North American Association for the Study of Obesity: *www.naaso.org*
2. International Association for the Study of Obesity: *www.iotf.org*