Tips from Other Journals

Adult Medicine

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Tips from Other Journals are written by the medical editors of *American Family Physician.*

The trade names of drugs listed in Tips from Other Journals are based on what is currently available and not necessarily the brand of drug that was used in the study being discussed.

Which Weight-Loss Programs Are Most Effective?

Background: The World Health Organization defines obesity as a body mass index of 30 kg per m^2 or greater, which puts almost 25 percent of the population of England in that category. Because obesity is associated with several chronic medical conditions, primary care physicians are charged with diagnosing obesity and offering clinical treatment, or recommending a commercial weight-management program. It is unclear, however, which approach or available commercial program is most effective for weight loss. Previous studies indicate that access to prolonged treatment plans (up to two years) yields greater weight loss compared with a control group, but most patients do not have access to long-term weight-management treatment. Jolly and colleagues compared the effectiveness of short-term programs for weight loss, including several commercial programs and primary care management, with a minimal-intervention control group.

The Study: Patients with obesity were recruited from 17 general practices in a regional National Health Service Trust in Great Britain. Pregnant women and those unable to understand English were excluded. Participants were randomized to one of eight groups. Three groups were assigned to commercially available weight-loss programs: Weight Watchers, Slimming World, and Rosemary Conley. Another three groups were assigned to programs provided by the National Health Service: a group weight-loss program (Size Down), one-on-one weight-loss counseling with a primary care nurse, and one-on-one weight-loss counseling with a pharmacist. Participants in the seventh group could choose which plan to participate in. Those in the eighth group (i.e., the control group) were given vouchers for 12 visits to a local gym, but did not receive any specific nutrition or weight-loss advice.

Baseline weights and heights were collected at participants' first visit to their assigned program. The primary outcome was weight loss at three months, with secondary outcomes of self-reported physical activity, weight loss at one year, and percentage weight loss at three months and at one year. Weight was recorded at the final visit for those who participated throughout the entire program; weights were collected in the office or by self-report for those who did not complete the 12-week program. At the one-year assessment, participants were interviewed about their impressions of the program to which they had been assigned and whether they had tried any other weight-loss programs over the year.

Results: To detect a 2-kg (4.44-lb) weight loss at three months with adequate power, 100 people were randomized to each of the three commercial program groups, the Slim Down group, the free-choice group, and control group. Because of limited availability, only 70 participants were randomized to the primary care and pharmacy groups. The 2-kg difference was selected because it was achievable in 12 weeks and contributed to a clinically meaningful 5 percent weight loss.

Although all groups lost some weight at three months, only participants in the Weight Watchers and Rosemary Conley groups had significantly greater weight loss and percentage weight loss than the control group (2.41 kg [5.36 lb] and 2.22 kg [4.93 lb], respectively). The least effective strategy was counseling provided by a primary care nurse. At one year, only participants in the ▶

Weight Watchers group had statistically significant weight loss compared with the control group (2.38 kg [5.29 lb]). Respondents who reported using the same weight-loss techniques they learned in the three-month study period throughout the year lost a small amount of weight at one year (0.57 kg [1.27 lb]), whereas those who changed to another method or stopped trying to lose weight gained weight at one year (1.18 kg [2.62 lb]). There was no difference in weight loss between participants randomized to a particular plan and those who were allowed to select a program.

Conclusion: In patients with obesity in a primary care population, participation for three months in select commercial weight-loss programs contributed to significant weight loss at one year. Individual weight-loss counseling through specially trained primary care practices was not effective for weight loss.

AMY CRAWFORD-FAUCHER, MD

Source: Jolly K, et al. Comparison of range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial. *BMJ.* November 3, 2011;343:d6500.

EDITOR'S NOTE: In this study, individual counseling was not effective for significant weight loss. However, two studies published in *The New England Journal of Medicine* reflect different results. In an accompanying editorial, Yanovski discusses both trials.[1] Wadden and colleagues compared usual care (i.e., brief counseling provided at quarterly primary care appointments or self-directed weight-loss efforts) with two treatment groups that received more frequent and intense patient interaction.[2] Those who received meal replacements and weight-loss medications in addition to monthly in-office lifestyle counseling lost and maintained significantly more weight compared with those who received only the monthly counseling, even after controlling for the weight-loss medication. In the study by Appel and colleagues, one treatment group received in-office individual and group sessions supplemented with telephone and electronic support, whereas the other treatment group received only telephone and electronic support.[3] Both groups were twice as likely to lose and keep off 5 percent of their initial body weight at two years compared with the control group. The fact that remote support with electronic or telephone communication was as effective as face-to-face counseling provides additional treatment options for practices. One caveat is that all services were provided free of charge; the feasibility of patients or insurers paying for these programs remains unknown.—A.C.F.

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Amoxicillin Does Not Improve Symptoms of Acute Rhinosinusitis

Background: Acute rhinosinusitis is a common diagnosis in ambulatory practice and is associated with significant morbidity and lost time from work. Despite little evidence of any antibiotic benefit in this self-limiting disease, rhinosinusitis accounts for 20 percent of all antibiotic prescriptions for adults in the United States. With the threat of increasing antibiotic resistance, strong evidence of symptom relief is needed to justify the use of antibiotics in treating rhinosinusitis. Using disease-specific quality-of-life measures, Garbutt and colleagues evaluated the use of amoxicillin in adults with clinically diagnosed acute rhinosinusitis.

The Study: This randomized controlled trial enrolled patients 18 to 70 years of age from 10 community practices. Using diagnostic criteria for acute rhinosinusitis from the Centers for Disease Control and Prevention, eligible patients had persistent or worsening symptoms for seven to 28 days, or significantly worsening symptoms lasting less than seven days; purulent nasal discharge; and maxillary or tooth pain or tenderness. Symptom severity was rated as moderate, severe, or very severe. Exclusion criteria included very mild or mild symptoms, penicillin or amoxicillin allergy, antibiotic treatment within four weeks, impaired immunity, complications from sinusitis, or pregnancy. ▶

There were similar numbers of patients with a history of asthma, allergies, or sinus disease in each group, although there were significantly more smokers in the placebo group than in the amoxicillin group (26 versus 13 percent; $P = .03$).

The 166 patients were randomized to a 10-day course of amoxicillin, divided into three 500-mg doses per day, or an identical placebo regimen. Amoxicillin was chosen because it has a narrow spectrum and there was a low prevalence of amoxicillin-resistant *Streptococcus pneumoniae* in the community. Both groups were offered symptomatic treatment including acetaminophen, guaifenesin, dextromethorphan/guaifenesin, pseudoephedrine, and saline nasal spray. The modified Sinonasal Outcome Test-16, a validated tool that scores 16 sinus-related symptoms, was performed on days 3, 7, 10, and 28. Treatment compliance and satisfaction were assessed at day 10. The primary outcome was the effect of treatment on disease-specific quality of life at day 3, because the authors postulated that any benefit of antibiotic treatment would be evident after 48 to 72 hours of use.

Results: Eighty-five patients were randomized to the amoxicillin group and 81 to the placebo group. The mean changes in Sinonasal Outcome Test-16 scores were similar between the groups at days 3 and 10. No serious adverse effects were reported, although 11 participants in the amoxicillin group and 12 in the control group did not complete the 10-day course for reasons that included a lack of symptom improvement, worsening symptoms, improving symptoms, or adverse effects. Smoking, prior sinus infection, asthma, allergic rhinitis, duration of symptoms, and severity of symptoms were not associated with benefit from antibiotic therapy. ▶

Conclusion: Amoxicillin did not improve symptoms in patients with clinically diagnosed uncomplicated acute rhinosinusitis.

CARMINE DIMARTINO, DO

Source: Garbutt JM, et al. Amoxicillin for acute rhinosinusitis: a randomized controlled trial. *JAMA*. February 15, 2012;307(7):685-692.

Exercise Reduces Depressive Symptoms in Patients with Chronic Illness

Background: Patients with chronic illness commonly experience depressive symptoms and physical inactivity, which can further impair their health status. Depressive symptoms are associated with decreased adherence to medical therapies and health-related quality of life, as well as increased disability, symptom burden, functional and role impairment, and use of health care services. Recent studies suggest that antidepressants may not be effective for treating mild to moderate depressive symptoms or in patients with comorbid chronic illnesses. For this reason, interest persists in nonpharmacologic treatments for depression, including exercise. Herring and colleagues conducted a meta-analysis to estimate the effect of exercise on depressive symptoms in patients with chronic illness who have not been diagnosed with depression.

The Study: Included studies enrolled sedentary adults with chronic illness who were assigned randomly to exercise training or a nonexercise treatment. Participants had depressive symptoms assessed at baseline and at the study's conclusion, but did not have a diagnosis of depression. Chronic illnesses represented in the study included cardiovascular disease, fibromyalgia, other chronic pain, obesity, cancer, chronic obstructive pulmonary disease, multiple sclerosis, and other neurologic conditions. Primary outcomes included depressive symptoms and a variety of exercise-related objective criteria and self-reported function-related measures. On average, participants exercised three times per week for 42 minutes per session over 17 weeks. The mean adherence rate was 77 percent of prescribed sessions.

Results: Of the 216 randomized trials identified, 90 were included in the meta-analysis. Effect sizes were calculated for the exercise versus nonexercise treatments, and a larger decrease in depressive symptoms among persons in the exercise group than those in the control group resulted in a positive effect size. In the mixed effects multiple linear regression analysis, the authors included seven primary moderators: physical activity exposure, change in fitness, illness type, change in the trial's primary outcome, blinded allocation, attention-control use, and intention-to-treat analysis. There was significant improvement in baseline depressive symptoms in persons in the exercise group compared with the nonexercise participants. The effect of exercise was greater when patients met moderate or vigorous physical activity recommendations and when the primary trial outcome was significantly improved. The number needed to treat was 6.

Conclusion: Exercise training reduces depressive symptoms in patients with chronic illness. Evidence suggests that improving depression improves outcomes for patients with medical illness.

AMY CRAWFORD-FAUCHER, MD

Source: Herring MP, et al. Effect of exercise training on depressive symptoms among patients with a chronic illness: a systematic review and meta-analysis of randomized controlled trials. *Arch Intern Med.* January 23, 2012;172(2):101-111. ■