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A STUDY ON SOCIETY AND CULTURE

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Introduction

Economic impact

In addition to its health impacts, obesity leads to many problems including disadvantages in employment and increased business costs. These effects are felt by all levels of society from individuals, to corporations, to governments. In 2005, the medical costs attributable to obesity in the US were an estimated $190.2 billion or 20.6% of all medical expenditures, while the cost of obesity in Canada was estimated at CA$2 billion in 1997 (2.4% of total health costs). The total annual direct cost of overweight and obesity in Australia in 2005 was A$21 billion. Overweight and obese Australians also received A$35.6 billion in government subsidies. The estimate range for annual expenditures on diet products is $40 billion to $100 billion in the US alone. Obesity prevention programs have been found to reduce the cost of treating obesity-related disease. However, the longer people live, the more medical costs they incur. Researchers therefore conclude that reducing obesity may improve the public's health, but it is unlikely to reduce overall health spending. Obesity can lead to social stigmatization and disadvantages in employment. When compared to their normal weight counterparts, obese workers on average have higher rates of absenteeism from work and take more disability leave, thus increasing costs for employers and decreasing productivity. A study examining Duke University employees found that people with a BMI over 40 kg/m^2 filed twice as many workers' compensation claims as those whose BMI was 18.5–24.9 kg/m^2. They also had more than 12 times as many lost work days. The most common injuries in this group were due to falls and lifting, thus affecting the lower extremities, wrists or hands, and backs. The Alabama State Employees' Insurance Board approved a controversial plan to charge obese workers $25 a month for health insurance that would otherwise be free unless they take steps to lose weight and improve their health. These measures started in January 2010 and apply to those state workers whose BMI exceeds 35 kg/m^2 and who fail to make improvements in their health after one year. Some research shows that obese people are less likely to be hired for a job and are less likely to be promoted. Obese people are also paid less than their non-obese counterparts for an equivalent job; obese women on average make 6% less and obese men make 3% less. Specific industries, such as the airline, healthcare and food industries, have special concerns. Due to rising rates of obesity, airlines face higher fuel costs and pressures to increase seating width. In 2000, the extra weight of obese passengers cost airlines US$275 million. The healthcare industry has had to invest in special facilities for handling severely obese patients, including special lifting equipment and bariatric ambulances. Costs for restaurants are increased by litigation accusing them of causing obesity. In 2005 the US Congress discussed legislation to prevent civil lawsuits against the food industry in relation to obesity; however, it did not become law. With the American Medical Association's 2013 classification of obesity as chronic disease, it is thought that health insurance companies will more likely pay for obesity treatment, counseling and surgery, and the cost of research and development of fat treatment pills or gene therapy treatments should be more affordable if insurers help to subsidize their cost. The AMA classification is not legally binding, however, so health insurers still have the right to reject coverage for a treatment or procedure. The experimental group received 60-70 minutes of behavior modification, once a week, for 8 weeks. The result indicates a significance improvement of body image and a reduction in the increase rate of body fat for the experimental group. This finding strongly supports the theory that behavior modification can be used as an effective strategy in the treatment of obese children. There were many other studies that support the findings of Young et al., 2004 (Raheleh et al., 2008; Hitomi et al., 2009; Mak et al., 2010; Meghan et al., 2011; Tahereh et al., 2012; Toulabi et al., 2012). Very little effort had been made so far in the area of obesity management through behavior modification of obese school boys. Furthermore no such evidence was found which evaluating the treatment containing a behavior modification programme on Indian obese population. Thus the researcher was interested to investigate in this area. Schools that provide physical education from an early age have understood the importance of all round growth. Physical education helps in development of muscles and bones and children kept fit from an early age. Obesity is a problem among many children and this can be partly solved by stressing on physical education. Obesity can lead to many problems such as diabetes, heart

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problems and imbalances in hormones in children. Encouraging physical education in schools will help to contain the problem of obesity to an extent. Children who are enrolled in some form of sport or the other reap the benefits in the long run.

Review of Literature

Comprehensive lifestyle modification programs typically provide weekly individual or group treatment sessions designed to modify eating and activity habits. This approach is exemplified by the Diabetes Prevention Program (DPP), which randomly assigned >3200 participants with impaired glucose tolerance to 1 of 3 groups: placebo, metformin, or lifestyle modification. Participants in the lifestyle intervention were provided 16 individual counseling sessions during the first 24 weeks and at least every-other-month sessions thereafter. They were prescribed a reduced calorie, low-fat diet of conventional foods (1200–2000 kcal/d, depending on body weight) and 150 min/wk of physical activity (typically brisk walking), with the goal of losing 7% of initial weight. After an average of 2.8 years, participants in the lifestyle intervention lost 5.6 kg in comparison with losses of 2.1 kg and 0.1 kg in the metformin and placebo groups, respectively. The risk in the lifestyle group of developing type 2 diabetes was reduced by 58% in comparison with placebo and by 31% in comparison with metformin. Ten years after randomization, lifestyle-treated participants had regained nearly to their baseline weight (with no significant differences in weight loss among groups). However, the incidence of type 2 diabetes was still lowest in the lifestyle group, which had a 34% reduction in risk in comparison with placebo. These findings suggest that modest weight loss, even when followed by weight regain, can be beneficial to long-term health. The Look AHEAD (Action for Health in Diabetes) study is a 13.5-year randomized trial that was initiated following the DPP to resolve conflicting findings from epidemiological studies concerning the health consequences of intentional weight loss. More than 5100 overweight participants with type 2 diabetes were randomly assigned to an intensive lifestyle intervention (ILI) or a diabetes support and education (DSE) group. The ILI was designed to induce a mean reduction in initial weight of 7% or more and to increase physical activity to at least 175 min/wk. During the first 6 months, participants attended 3 group sessions and 1 individual visit per month and replaced 2 meals per day with a liquid supplement (eg, SlimFast shakes), with a goal of consuming 1200 to 1800 kcal/d (with heavier participants receiving more calories). For months 7 to 12, ILI participants attended 2 group sessions and 1 individual visit each month, and used meal replacements for 1 meal per day. In years 2 to 4, participants were offered 1 individual on-site visit and 1 phone (or e-mail) contact per month, with periodic group sessions to help participants achieve the 7% weight loss goal or to reverse weight regain. Obese individuals can lose weight by following reducing diets that vary widely in macronutrient composition. Caloric restriction, however, rather than macronutrient composition, is the key determinant of weight loss. Because all of the diets reviewed appear to have comparable short- and long-term safety, the choice of the diet can be guided by the desired control of comorbid conditions. Further research is needed to determine the optimal dietary macronutrient composition for improving specific comorbid conditions, such as impaired glycemic control, as investigated in the DPP and Look AHEAD studies. Obese populations selected for specific CVD risk factors will provide greater opportunity to demonstrate the benefits of both weight loss and macronutrient composition than will populations selected on obesity status alone. The choice of a diet also should address patient preferences, particularly those related to ease of dietary adherence. A successful reducing diet is one that an individual can adhere to for several months to lose 5% to 10% of initial weight. Greater weight loss is desirable because it is associated, in a linear manner, with greater improvements in CVD risk factors, including HbA_{1c}, blood pressure, triglycerides, and high-density lipoprotein cholesterol. Although dietary interventions for hypertension and other comorbid conditions have shifted to the prescription of dietary patterns, such as the Dietary Approaches to Stop Hypertension diet, such approaches must be combined with calorie restriction to induce clinically meaningful weight loss (as they have in some recent trials). To achieve long-term weight loss, most obese individuals must consciously restrict their energy intake, whether by reducing portion sizes, decreasing the energy density of the diet, counting calories (or specific macronutrients), or some combination of these approaches.

Physical Activity and Weight Management

Physical activity plays a critical role in improving cardiovascular health in both average-weight and obese individuals. In the absence of significant weight loss, regular bouts of aerobic activity have been found to reduce blood pressure and lipids, as well as visceral fat, the latter which is associated with improved glucose tolerance and insulin sensitivity (in nondiabetic individuals) and glycemic control (in patients with type 2 diabetes). Leskinen et

al examined 16 twin pairs with discordant levels of physical activity and found that inactive twins had greater amounts of high-risk fat, including visceral, liver, and intramuscular. In sum, physical activity, independent of weight loss, appears to be associated with improvements in body composition and metabolic conditions. Physical fitness, which generally increases with increased physical activity, also may attenuate obesity-related mortality. Lee et al examined >21 000 men in the Aerobic Center Longitudinal Study and found that those who were fat but fit had lower rates of cardiovascular death than those who were average weight but unfit. Subsequent studies, however, with more diverse samples that included both men and women, found that fitness only partially attenuated the risk of mortality associated with excess adiposity. Fatness and low fitness appear to be independent risk factors for CVD morbidity and mortality, and both should be targeted in comprehensive lifestyle programs.

Physical Activity and Weight Loss

Physical activity alone is of limited benefit in inducing weight loss, as reported in a recent position article of the American College of Sports Medicine. This is because most individuals cannot find the time or motivation to engage in the high volume of activity (eg, 35 miles of walking a week) required to lose even 0.45 kg/wk. This rate of weight loss is more easily achieved by participants' restricting their food intake by 500 kcal/d. A study by Slentz et al underscored the minimal benefit of exercise alone for weight loss. Individuals who jogged/ran the equivalent of 20 miles a week (but were not instructed to restrict their food intake) lost only 3.5 kg at the end of 8 months of training. Individuals who walked 12 miles a week at a moderate intensity (the equivalent of 6 one-half hour bouts of walking a week) lost only 1.1 kg. Similarly, the addition of regular exercise to caloric restriction (ie, dieting) only marginally increases short-term weight loss, although it does spare the loss of fat-free mass. These findings suggest that obese individuals should be encouraged to exercise, at least in the short term, for the sake of improving their cardiovascular health, rather than for inducing weight loss. The Obesity Behavioral Medicine Program provides evaluation and behaviorally-based treatment of overweight and obese patients. Overweight is typically defined as a body mass index (BMI) of 25 to 29.9, and obesity as a BMI of 30 or over. Our behavioral self-management approach to weight management includes assessment of disordered eating behaviors (e.g., binge eating, emotional/compulsive eating), individual and group-based cognitive-behavioral treatment of disordered eating behaviors, and psychosocial intervention. Behavioral weight management also includes an emphasis on maintenance of healthy behaviors once weight loss is achieved. One of the specialty areas of this program is the pre- and postsurgical psychiatric management of bariatric surgery patients. Our staff works closely with the Johns Hopkins Center for Bariatric Surgery, a Center of Excellence in Bariatric Surgery. Patients planning to undergo bariatric surgery are required to undergo psychiatric evaluation, and the Obesity Behavioral Medicine Program has developed a specialized program to meet the needs of surgical patients. Presurgical evaluations are conducted by Dr. Coughlin, Dr. Seide, and Sharon Praissman, Psychiatric Nurse Practitioner. After initial evaluation, patients in need of further psychiatric services can be referred to one of our program's affiliated psychiatrists, Dr. Ramen Chahal, who works with a number of highly qualified and specialized obesity behavioral therapists in our Community Psychiatry Program, including Maura Murphy and Jill Varelli.

References

1. Ebbeling, C.B., Pawlak, D.B., & Ludwig, D.S. (2002). Childhood obesity: public-health crisis, common sense cure. The Lancet, 360(9331), 473-482.
2. Lobstein, T., Baur L., & Uauy, R. (2004). Obesity in children and young people: a crisis in public health. Obesity Review, 5(1), 4-85.
3. World Health Organization. (1997). Obesity: Preventing and Managing a Global Epidemic. Retrieved from http://www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/ index.html.
4. World Health Organization. (2006). Obesity and overweight. Retrieved from http://www.who.int/mediacentre/factsheets/fs311/en
5. World Health Organization. (2012). Prioritizing areas for action in the field of population-based prevention of Childhood Obesity. Retrieved from http://www.who.int/dietphysicalactivity/childhood/Childhood_obesity_Tool.pdf
6. Young, I.M., Ho, R.P., Hyun, y. K., & Hyo, S.K. (2004). Effect of behavior modification on body image, depression and body fat in obese Korean elementary school children. Yonsei Medical Journal, 45(1), 61-67.
7. Raheleh, S.S., Marziye, K., Mohamad-Hossein, K., & Hamidreza, T. (2008). The Effect of Dietary Behavior Modification on Anthropometric Indices in Obese Adolescent Female Students. Iranian Journal of Pediatrics, 18(1), 71-76.