Holiday Weight Gain: Fact or Fiction?

The prevalence of obesity continues to rise and controversy remains regarding the underlying specific causes of this trend. Recently, the magnitude of holiday weight gain and its contribution to annual weight gain were examined in a convenience sample of 195 adults. On average, weight gain during the 6-week winter period from Thanksgiving through New Year averaged only 0.37 kg. However, weight gain was greater among individuals who were overweight or obese, and 14% gained >2.3 kg (5 lb). In addition, among the entire population, weight gain during the 6-week holiday season explained 51% of annual weight gain. These results suggest that holiday weight gain may be an important contributor to the rising prevalence of obesity, even though absolute values for weight gain in this study were less than anticipated. Further studies using representative populations are needed to confirm these findings.

Obesity has emerged as the most prevalent public health problem of our time, and the percentage of individuals classified as overweight (body mass index [BMI] >25 kg/m²) or obese (BMI >30 kg/m²) continues to rise nationally and worldwide. In the United States, more than 50 percent of adults and more than 20 percent of children are now classified as overweight or obese. However, there remains insufficient research information to form a general consensus on the specific underlying causes of excess weight gain. Such information is urgently needed to provide a rational basis for developing effective programs for prevention and treatment.

A recent study by Yanovski et al. explored the widely held belief that more weight is gained during holiday periods than at other times of the year. A prospective study was conducted in 195 adults (ages 18–81 years) recruited through advertisement in the National Institute of Health (NIH); 88% of the subjects were employees of NIH. Body weight, along with other variables designed to mask the investigators' interest in body weight, were measured at the beginning and end of three consecutive periods of approximately 6 weeks. The middle period spanned the third week of November through early January and thus included the U.S. national holidays Thanksgiving, Christmas, and New Year. One hundred sixty-five of the subjects also agreed to return for additional visits the following summer and fall; in these subjects, longitudinal weight changes were tracked more comprehensively.

The primary finding of the study was that weight gain during the 6-week holiday period from Thanksgiving to after New Year averaged only 0.37 kg. This value was greater than weight gain during the 6-weeks prior to Thanksgiving (+0.18 kg) and weight was lost on average in the 6 weeks following the holidays (-0.18 kg). However, 0.37 kg is a much smaller amount than the 2.3 kg (5 lb) widely quoted in the popular press for usual holiday weight gain, suggesting that holiday weight gain is not as great as many people believe it to be. Moreover, during the final study measurement at the end of the third 6-week period, the investigators asked subjects how much weight they thought they had gained. The mean self-reported holiday weight gain by the subjects was 1.57 kg, a value three times greater than measured weight gain, again suggesting that a false perception of high weight gain may contribute to the belief that holidays are responsible for more weight gain than they really are.

Results from this study are clearly at odds with the general belief and self-reports that holiday weight gain is usually 2.3 kg or greater in the United States. Instead, the results are consistent with two previous studies suggesting only small seasonal fluctuations in body weight and alternatively indicate that individuals may be more aware of body weight during holiday periods and falsely attribute excess weight at this time to recent gain. The question of whether substantial holiday weight gain is usual, however, has not been fully resolved by this study. In particular, as discussed by Yanovski et al., it is not known whether this convenience sample of primarily NIH employees is representative of the general population.

National Institutes of Health employees may be much more health conscious than the general population and one manifestation of this health consciousness might be more care to prevent weight fluctuations including during holiday periods. In addition, the population was highly educated, and the less represented lower socioeconomic groups may gain more weight during holidays. Thus, ad-
ditional research is needed, including on normative populations, to determine whether excess holiday weight is usual among different population groups.

Yanovski et al. also investigated whether holiday weight gain contributes disproportionately to annual weight gain, and whether there might be a subgroup of the study population who gained much more weight than others. Concerning annual weight gain, in the subpopulation of 165 subjects who were studied for 12 months, mean weight gain during the 6-week holiday period was 0.32 kg and mean weight gain during 12 months was 0.62. Thus, although mean holiday weight gain was not as great as expected, or indeed as great as reported by the subjects, it did account for 51% of annual weight gain despite the short holiday duration (6 weeks). From this perspective, holiday weight gain can be considered a potentially important contributor to overall excess weight gain. It is also important to note that weight gain may have a permanent effect on body composition even if that weight is lost subsequently. For example, Dawson Hughes and Harris reported that seasonal weight fluctuations in postmenopausal women resulted in a net 12-month gain in total body fat and an increase in central adipose tissue even though net weight gain was zero. In view of the substantially increased risks of cardiovascular disease, diabetes mellitus, hypertension, and hyperlipidemia when excess adipose tissue is carried disproportionately in the abdominal region, any weight fluctuation that promotes a redistribution of body fatness towards central depots should be considered undesirable.

Although only ~10% of the total population in the study by Yanovski et al. gained >2.3 kg, and there was no independent effect of gender, age, race/ethnic group, or socioeconomic status on weight gain, it is noteworthy that weight gain was greatest among individuals who were initially overweight. Fourteen percent of individuals classified as overweight or obese at the initial measurement gained >2.3 kg during the 6-week holiday period, suggesting that individuals with the greatest need to avoid further weight gain are those at greatest risk.

The specific reasons for why weight gain during adult life may occur disproportionately during holiday periods are not known. However, studies in both animal models and humans have consistently linked increased consumption of a high variety of high-energy foods to weight gain. In addition, short-term studies (currently no long-term studies are available on this issue) indicate that highly palatable foods are known to be consumed in greater amounts than less palatable items of a comparable type. Because special foods are often consumed during holiday periods, both the increase in dietary variety and palatability relative to usual foods may lead to overeating, which in turn could account for the increase in body weight and fatness.

In summary, current evidence suggests that weight gain in the United States occurs disproportionately during the winter holiday period compared with other times of the year, and may thus be an important contributor to the rising prevalence of obesity. Studies are needed to confirm this finding in representative populations, however, and to examine the specific underlying reasons for why adult weight gain occurs.

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