

Seasonal Affective Disorder—A Common, Overlooked Cause of Binge Eating

Kristine sighs, “I started eating candy as soon as it was in the stores for Halloween, and couldn’t stop until the Easter candy was gone!” Her therapist who is treating her for binge eating disorder has referred her to me for nutrition counseling, and as I ask more questions, she describes a suspicious pattern. “As soon as I start bingeing, I don’t feel like exercising, and I just let the whole thing go. Then when I feel better and start exercising, I stop bingeing on candy.” I ask her if this always happens between October and May. She doesn’t know, but after thinking about it for a week, she realizes that it is true—she tends to eat well and exercise during the late spring through the late summer, but “loses it” during the fall through the early spring. As Kristine described it, “Looking back I can see that it’s true. I feel OK and do fine until the days begin to get shorter in fall. Then I stop exercising, can’t stop eating candy and cookies, and feel depressed. Then when spring comes I start to feel better, I get tired of sweets, and start exercising again.” I call her therapist who begins evaluating Kristine for Seasonal Affective Disorder.

About twenty percent of North Americans experience mood changes from winter to summer, according to Al Lewy, MD, a psychiatrist at Oregon Health Sciences University, but of those, about five percent suffer from Seasonal Affective Disorder (SAD.) SAD is considered an atypical depression. The symptoms of SAD include increased need for sleep and morning hypersomnia, decreased creativity, lethargy, immobilization, and in extreme cases, suicidality. For dietitians, however, the most notable symptoms of SAD are increased appetite, increased preference for carbohydrates, and weight gain. It is important for us to note as well that people who are immobilized by depression are usually unable to sustain physical activity regimens.

Dr. Lewy describes the mechanism of SAD as involving the body’s endogenous pacemaker, located in the suprachiasmatic nucleus of the hypothalamus that controls our circadian rhythms in close, but not precisely 24-hour periods. The SCN is synchronized to a 24-hour light/dark cycle through a pathway that extends from the retina of the eye, the retinohypothalamic tract. In people with SAD, both serotonin and melatonin levels are different from normal levels.(1) Daylight suppresses the production of melatonin, one of the hormones that causes sleep. When the hours of daylight diminish, some people continue to produce melatonin sufficiently to cause sleepiness and are literally trying to be awake while their bodies are still asleep.

In fact, if we didn’t increase our waking hours with electric lights, but rather slept during the hours of darkness, SAD would not exist. Symptoms of SAD start very gradually in October or November, are at their worst in January, can begin to get better in early February, and will be in complete remission by May or June. It is possible to SAD to coexist with and perhaps exacerbate other forms of depression or binge eating disorder, but it is distinct from them. People with SAD tend to crave simple carbohydrates and have been shown to eat both more

complex and simple carbohydrates, and report more eating because of depression, loneliness and anxiety than healthy people. Because of this, they can be diagnosed with binge eating disorder, but the disordered eating seen in SAD is distinct from that of eating disorders, although it may exacerbate disordered eating that exists as well. (2)

A different, but related problem occurs in people who do shift work. "Shift work maladaptation" affects about 20% of the US workforce, according to Dr. Lewy. Some workers are able to adapt to working different night shifts, but most do not, and older workers adapt less well than younger ones. In my practice I have seen nurses and other people who work "grave yard" who eat more than they are hungry for at work to try to improve their energy level. Their eating normalizes when they change to a day shift.

Assessment for people with binge eating and/or exercise resistance will ideally include questions to discern whether these problems tend to happen mostly in winter. It can be confusing because many holidays that include candy, desserts, and other simple carbohydrate-rich foods occur from October to April. People with SAD will have experienced it since childhood and may remember having had difficulty with waking up to go to school during the darker months. When people are recalling their weight history, it is useful to inquire when they first began a failed diet and/or physical activity program and when they could no longer sustain it. People might not remember initially, but by thinking about it and perhaps looking at old journals or date books, a pattern of seasonal difficulty might emerge.

People confuse cloudy weather with lack of sunlight, and might report feeling "down" or "blue" if it has been raining for several weeks on end. However, the sunlight on even the cloudiest day is sufficient to prevent SAD if sufficient hours of daylight are available. In other words, it is the number of hours of daylight that make the difference, not whether or not it is actually sunny outside. And although SAD is more likely to occur in the Northern climes where the difference in light levels are more extreme summer to winter, I have seen people who are seasonally affected when my practice was in Southern California as well as here in Portland, Oregon.

Many studies suggest that SAD is best treated by bright light (3,4, 5, 6,7, 8, 9, 10) in daily exposure of about 10,000 light units or lux (room light is about 500 lux or less.) Special light fixtures are available and for treatment of SAD, are most effective when used before 8:30 in the morning. Brightness of the light will increase the closer it is, and each light will come with instructions about how close to sit to it and for how long. A typical protocol might be to sit two feet from a light at 10,000 lux for 30 minutes every morning before 8:30, looking up and scanning the light for a few times a minute. People often use their light while eating breakfast and reading the paper, or at their desk when they first arrive at work.

It also can help to get outside during the day as much as possible, and to awaken with a "dawn simulator," a kind of alarm clock/light that slowly increases in brightness. A dawn simulator allows people to awaken gradually as they would as the sun rises, rather than being jarred

awake from REM sleep, while dreaming.⁽¹¹⁾ A trained psychotherapist who is familiar with treating SAD will be able to diagnose, prescribe, and then monitor treatment. If you are unable to locate a psychiatrist or other licensed psychotherapist skilled in diagnosing and treating SAD, light fixtures can be purchased from local dealers or on-line and used according to the directions. However, there are many products on the market that are not strong enough, as the light must be 6,000 to 10,000 lux and some are full spectrum light that will damage the retina. Avoid sun lamps and ultraviolet wavelengths. Dawn simulators are also available locally or on line.

Because glucose metabolism is different in people with untreated SAD, neurotransmitter changes may be what causes cravings.⁽¹²⁾ It has been speculated that people may be self-medicating with simple carbohydrate to enhance their neurotransmitter levels. Although eating simple carbohydrates may bring about temporary mood elevation, there is some evidence suggesting a more sustained improvement in mood is more likely when simple carbohydrates are decreased in the diet.⁽¹³⁾ However, no studies have been conducted on dietary intervention for SAD at this writing.

Physical activity can also improve mood and enhance well-being. Exercise in bright light (2,500-4,000 lux) in one study decreased SAD symptoms better than similar physical activity with typical room light exposure (400-600 lux.)⁽¹⁴⁾ Physical activity in bright light improved general mental health, social functioning, depressive symptoms, and vitality, while exercise in ordinary room light merely improved vitality. Whenever possible, exercising during daylight hours, outdoors, is preferable to exercising indoors or before or after the sun is out. However, we must balance this recommendation with common sense because obviously it is better to exercise in less light if it fits into the client's schedule, than for him or her to try to exercise in daylight if it means they don't do it at all.

There has been little investigation into the possible side effects of bright light therapy. About 45% of the subjects in the one study done on negative effects of bright light therapy experienced such symptoms as minor eye and vision changes and headaches. These side effects, seen with brief treatment at 10,000 lux, were considered mild, of short duration, and were not aversive enough to discontinue light therapy. (15)

At the advice of her therapist, Kristine bought a light box from a local dealer who stocks several kinds and will allow people to try the light for a month to see if it helps. Kristine's provides 10,000 lux when she sits two feet from the fluorescent tubes. She uses the light for a half hour while she eats breakfast and reads the paper in the morning. As recommended, she scans across the light for a few seconds a few times a minute. After the first week she said, "I'm getting tired of chocolate," but wasn't certain the light was helping. The second week she reported, "I get so much energy while I'm using the light that I want to get up and do something before the 30 minutes are up!" She began exercising again, was no longer bingeing, and said, "I

feel like myself again.” When she traveled during the holidays and was not able to use her light, she began to feel her mood slump, but felt better again as soon as she began to use it. She is considering buying a smaller version for travel because she is out of town for business frequently. Her psychiatrist recommended that she begin using the light again early next October so that she can prevent any symptoms of SAD from occurring.

My experience with clients who have SAD is that even once it has been identified, they don't always get the help they need immediately. The same immobilization that makes it difficult or impossible for them to exercise makes it difficult for them to seek out and buy a light box, and then set up a schedule to use it as needed. I find that as with any behavior change, it often takes several sessions of reminders, goal setting, and helping them solve the problems or obstacles they encounter. It would be much simpler were these devices readily available from ordinary stores. I keep brochures from different manufacturers so that my seasonally affected clients can at least see what a few of the models look like. Also, most light boxes cost \$200-300.00, and the dawn simulators \$100-200.00. The fluorescent bulbs for the light boxes need to be replaced about every two years at a cost of \$25-50.00. Although the cost is not much more than one or two sessions with a psychiatrist, insurers are not likely to pay for lights or dawn simulators unless the treating physician is willing to help their patient appeal.

Not every person who binge eats or who can't sustain a regimen of physical activity is seasonally affected. But ideally any person who seeks help for over weight, binge eating or exercise resistance will be assessed for SAD. It is simple to incorporate questions about seasonal variations in eating behavior and physical activity into an intake interview. When SAD is causing or exacerbating bingeing and/or lack of physical activity, the difference that enough light, when used properly, can make is remarkable. (16,17) The dietitian may be the first health care practitioner who recognizes the problem and refers the client for the appropriate treatment.

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