See the Light

Ronda Drost
Iowa State University

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Every year I dread winter, and every year I suffer through it. My grades decline in January and February. I go out little and am always grouchy. I eat a lot and I gain weight—only to lose it again in the spring when I get so hyper and energetic that I sleep little and rarely sit.

If students tend to crave carbohydrates, overeat, gain weight, feel fatigued and lethargic or sleep more during winter than during any other time of the year, they too may be sufferers of Seasonal Affective Disorder, or SAD, said a registered nurse of psychiatry at McFarland Clinic in Ames.

Each patient’s symptoms vary. “You have to look at their personal history for a cyclical pattern; they get better, then they get worse,” she said. Now, researchers and experts are looking to light as a factor in depression and energy. Sufferers of SAD may need only to see the light to feel better.

Symptoms and Diagnosis

The nurse at McFarland said she and most other professionals use the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association to diagnose patients.

To be diagnosed with SAD, these factors must be present:

1) A person must experience changes which begin and end at the same time each year. To be positive that the cause of depression is from the seasonal change, however, there must be no other stressful events occurring regularly during this time period. For example, Sue works for the city. She gets depressed from November to March every year. Sue also must blade snow from November to March every year. Sue hates to blade snow. Is her depression from SAD or from bladeing snow?

2) A person must have experienced changes at least three separate times in three separate years. At least two of these years must be consecutive.

3) A person who has been diagnosed with other kinds of depression must have at least three more occurrences of the depression that occurs at regular time periods each year than the other types.
Iowa State Students

Fifty-one Iowa State students were randomly polled on how they think they are affected by the seasons and the sunlight. Sixty-three percent were male, and 37 percent were female. Most were aged 19 to 25.

Almost half of those polled selected June and July as their most favorite months while January and February were selected by 90 percent, as the least favorite months. Response to the seasons had similar results.

About 50 percent of those surveyed said they tend to sleep more, eat more and gain more weight during the winter months. About 50 percent said they see no change.

Causes of SAD

Most researchers agree that SAD is caused by a change in the cycles within the body. Examples of these cycles are body temperature and hormonal secretions. Hardin said there are two theories; the first is that these rhythms get out of sync with each other, and the second is that they become out of sync with cycles in the external world such as dawn/dusk times.

Some researchers believe the circadian cycle involving the hormone melatonin is related to SAD. Melatonin is released at night and signals the body to sleep. In the morning, light tells the body to stop producing melatonin, and the body is signaled to wake.

SAD sufferers' biological clocks do not adapt properly to the change of seasons. In the fall, when the sun starts rising later and later, melatonin is released later and later too, until there is enough light. The person will be signaled to wake at a later time each morning, and will find it harder to wake up before this.

Light Therapy

These findings have prompted researchers to experiment with light therapy. Light therapy is a treatment in which patients sit in front of bright lights for a varying amount of time each day.

Hardin recommends that patients sit for 30-45 minutes between 6 and 9 a.m. in front of a light at 10,000 lux. This light level is 10 to 20 times greater than regular indoor lighting. A lux is essentially a way to measure the light that reaches a certain place, he said.

Products called light boxes can be purchased from manufacturers for home use and must be used each day during the months when the symptoms are the greatest. Hardin said research has established that lights must be at least 2,500 lux to effectively treat SAD sufferers.

The intensity, length of time used and timing are the most important aspects of the light, Hardin said. Intensity in this usage refers to lux measure, not to wattage, so the distance a person sits from the lights affects the outcome dramatically. Lights used are just like regular fluorescent ceiling lights, only more intense, Hardin said. Ceiling lights may deliver only 300-400 lux.

Most users have a significant drop in symptoms in three to seven days. Hardin said 80 percent of clinically recognized patients gain significant relief.

Common SAD Symptoms

- Depressed feeling/Inability to enjoy life
- Sleep more hours per night than usual yet feel fatigued for most of the day every day
- Irregular attendance to activities/jobs
- Less social/more withdrawn than at other times of the year
- Increased appetite and weight gain
- Cravings for carbohydrates
Hardin mentioned that some side effects have been reported after light box use. These include eye strain, restless sleep and jittersiness (like after consuming too much caffeine). Hardin said symptoms usually decrease with adjustment to use. If patients are restless, they should use the lights earlier in the day. If patients are jittery, they should shorten the time they use the lights.

Hardin said that unless patients already have an eye disorder, their vision should not be affected by light therapy. “We have done research on the eyes of people who have been in the program for a long time—10 years—and there have been no cases of eye damage.”

Experimentation has also been done with dawn simulators, said Steven Zilber, a lighting consultant in Cleveland, Ohio, and a researcher on SAD and light therapy. Dawn simulators are lamps set on timers like alarm clocks. They take 40 minutes to gradually bring the room from complete darkness to light. Zilber said results have shown that dawn-simulators only need to be at 30 lux to 500 lux, compared to light boxes at 10,000.

Zilber said eyes are at maximum sensitivity at night, and because eyelids are translucent, the eyes do not need to be open to receive the light. Light from the dawn simulators will help the person wake up more easily because they will either fool the body into thinking the day is longer as in summer, or shift the circadian cycle back to the correct time so the person can wake without problems.

Zilber said dawn simulators could be used year-round. “Current environments cause many people to wake up in the dark anyway,” Zilber said. Zilber noted that the 1.5 million Americans working graveyard shifts could also use dawn simulators to regulate their sleep/wake pattern. So far the only side effects reported have been mania and an occasional brief early wakening.

Although not FDA approved, Hardin said it hasn’t told anyone not to use light treatment devices. It has not been approved because SAD and its treatments are fairly new so are still under scrutiny. Companies mainly have to be careful about what they claim their product can do, said Hardin.

The nurse said McFarland leases light boxes for about $50 each month to patients diagnosed with SAD or to those who have suffered symptoms. She said users are to keep diaries throughout the therapy.

The nurse at McFarland said that there are also visors that can be worn that shine lights right above the eyes. She doesn’t recommend them though. “I don’t think they would be effective because studies say light rays must bounce off the retina, and they wouldn’t at this angle.” She did mention that visors are cheaper so may be an option for some. New light boxes can be $200-$450.

Other Therapy

Hardin said that some patients cannot use light therapy. They may not have the time, or they may already have an eye problem.

Some may find relief with medication. Hardin there are prescription drugs which increase the levels of the hormone serotonin, a hormone related to moods, weight, appetite, sleep, sexual interest and energy.

Others may want just to spend more time outside. Hardin said that even on most cloudy days there is more light outside than inside. If someone has to be inside, Hardin said, sitting near a window is better than nothing.

McFarland holds weekly group-therapy sessions of about 10 SAD sufferers. Therapy centers around the discussion of a book titled Winter Blues by Norman E. Rosenthal, M.D., she said.

Some patients find relief by eating carbohydrates, but Hardin said SAD sufferers’ diets do not play a primary role because these will not fix the problem. Hardin said he may recommend patients to eat complex carbohydrates so that they still get what they want, without the weight problems associated with the junk food to which many resort.

Hardin recommended that people suspecting that they suffer from SAD be diagnosed by healthcare professionals, and that therapy be conducted only under a physician’s care. No one at Iowa State’s Student Health Center works directly with SAD patients, but the nurse from McFarland said that two of McFarland’s doctors work at the health center during the week.

Take action now. If you think you suffer from SAD, file this article now while you have the energy, and prepare yourself for next fall when the onset of winter blues occurs.

For every man who suffers from SAD, there are usually three to four women who suffer from it.