

# Sad Seasons: Winter Mood Not Always Holiday Blues

By Jack M. Gorman, MD

Our species originated in Africa, and communities around the world today represent the result of tens of thousands of years of migration. The eminent geneticist Mary-Claire King, PhD, discoverer of the BRCA I gene that predisposes to early-onset breast cancer (among many other major contributions), recently commented during a lecture to the American Psychopathological Association that among the residents of any small town among the residents of any small town anywhere in the world >90% of the total amount of human genetic variation can be found. (M-C. King, PhD, unpublished, March, 2005). Almost all of the evolutionary changes that affect the structure of our species' genome had already occurred by the time some of our ancestors began to leave Africa.

This means that evolution has not prepared us to adapt to the varying climates that are found in the different places that *homo sapiens* now occupy. An individual living north of the Arctic Circle is as genetically distinct from (or similar to) one of his or her neighbors as he is to someone who lives on the Equator. If the human species evolved to be suited to the temperatures and lengths of day that are common in various parts of Africa, those of us who live elsewhere need to find human-made ways to deal with climatic differences: there is nothing in our genes to assist acclimatization. Hence, if you want to survive in the Arctic, you better wear a heavy coat.

I recall that many years ago, the *New York Times*<sup>1</sup> ridiculed research demonstrated the existence of the psychiatric illness known as seasonal affective disorder (SAD). The *Times* editorial writers mocked the idea that there are people who suffer from depression in winter. Doesn't everyone get moody when the weather turns cold, the day short, and the snow appears, the *Times* queried?

In fact, as readers of this month's *CNS Spectrums* will clearly see, seasonally related disorders are not only real, they are predictable. Basic scientists, mostly using the fly *Drosophila* as their model, have now identified multiple "clock" genes present in every cell in organisms that regulate circadian rhythms.

These molecular and cellular biologists explain that the clock governs our lives in an inexorable way. Add to this my aforementioned comments on the lack of mutations in our genome making us more or less suitable to live anywhere on the globe and it is quite easy to realize how neuropsychiatric disorders based on the season of the year inevitably occur.

Leaving aside the shortsightedness of the *New York Times* and all others who think that feeling desperately depressed in the winter is merely the usual complaint, we Northerners have when the day gets short, it is quite obvious that SAD plagues many patients with mood disorder, but is also a treatable condition, particularly with light therapy.

I gave my friend Norman Rosenthal, MD, then of the National Institute of Mental Health, a hard time when he first proposed that bright light may ameliorate a psychiatric illness. However, the data swayed my opinion. Abundant data now show that, particularly when administered in the morning at a dose of ~10,000 lux for ~30 minutes, exposure to light is an efficacious treatment for winter depression. I have been especially impressed by the dogged and insightful work of physicians such as Michael Terman, PhD, and Jiuan Su Terman, PhD, whose excellent article appears in this month's issue, in trying to track down exact the basis for winter depression and how exposure to bright light works to relieve patients. I am also grateful to Siegfried Kasper, MD, for amassing such a wonderful group of authors.

It is summer; all of us in the so-called "temperate zone" are enjoying long days and warm weather. I am not looking forward to subfreezing temperatures, darkness at 5 PM, or my driveway piled with snow. Nevertheless, it is quite obvious to me that there is a difference between annoyance and depression. SAD is the latter, not the former. **CNS**

## REFERENCE

1. Friedman RA. Behavior; a blue holiday may be a red herring. *New York Times*. December 16, 2003:F5

Dr. Gorman is the editor of *CNS Spectrums* and Esther and Joseph Klingenstein Professor of Psychiatry and chair of the Department of Psychiatry at Mount Sinai School of Medicine in New York City.