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PRESS RELEASE

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MISSING A FEW WINKS EACH NIGHT?

The cost may be higher than you realize.

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It's no big deal to lose a couple hours of sleep for a few months, right?

A recent sleep study conducted by University of Nebraska Medical Center's Amanda Prokasky, PhD, Education and Child Development, Munroe-Meyer Institute in Omaha and retired Susan Harris, Nebraska Extension educator, Institute of Agricultural and Natural Resources, reveals that sleeplessness leads to lack of concentration, slower reaction times, or distractibility. Losing 30 minutes for one night has little effect, however a 30-minute deficit each night for four to six weeks will take a physical and mental toll.

"Susan Harris and I met after I completed a five-year federally funded research study examining sleep habits of toddlers," Prokasky says. "Susan was interested in measuring the effects of sleep loss in farmers and ranchers, but we were unsure how to measure that. Written surveys completed by participants are generally somewhat skewed as many of us perceive that we sleep longer than we actually do."

Prokasky and Harris enlisted 40 farmers/ranchers in the Midwestern states of Nebraska, Iowa, Kansas, North and South Dakota, and Missouri who raise crops and livestock. Ranchers who don't raise crops are likely to lose sleep during calving season. They used an Actigraph Spectrum Plus, a wrist device (essentially an expensive Fitbit) that monitors and records continuous data on daily motion and activity levels, to obtain data for the study. Study

participants wore the device for one week during harvest or planting, then again during a more routine week.

“The device gives a clear and objective picture of actual sleeping time during the night, measuring sleep quantity and quality,” Prokasky says.

The data collected allowed the researchers to compare the amount of nighttime sleep, bedtimes and wake times, and the number and length of night wakings between busy and slower weeks. In addition to the Actigraph data, participants also completed post-project surveys.

The data verified that participants lost on average 30 minutes of sleep per night during peak activity times versus more routine periods.

“That doesn’t sound like a lot,” Prokasky says. “And for one night, the sleep loss doesn’t have much effect. However, over several weeks, the loss accumulates and has huge impacts on our health and well-being.”

Sleep flushes diseased and damaged bits of toxins and waste from our brains. It also performs a process called consolidation, which cements information in the brain that was learned throughout the day so the brain retains it. Sleep plays a role in metabolism and helps control hunger hormones. Sleeping triggers tissue growth that heals injuries and creates virus-fighting cells to boost immunity to illness.

During sleep, creativity, energy levels, and positive moods increase, and stress is reduced. Muscles and organs rebuild critical cells during sleep.

Lack of sleep may result in irritability, confusion, memory loss, concentration problems or depression. All these consequences can be deadly for producers working with heavy equipment, chemicals, or livestock.

“Taking brief breaks or naps during busy times like planting and harvest could help lessen these consequences,” Prokasky says. “However, ongoing sleep deprivation will take a toll.”

Prokasky points to a New Zealand study of dairy farmers who were getting up during the night to milk cows as was part of their schedule for milking three times per day. Researchers were able to convince the farmers to change their milking schedule so their nighttime sleep wasn’t disturbed.

“Their overall sleep quality was noticeably improved as a result,” Prokasky says. “When we’re losing sleep over several weeks, we may believe we can ‘catch up’ at some point, but that rarely happens. If it’s not possible to avoid depriving yourself of some sleep each day for a long period, take 20-minute naps during the day, which can have a positive impact on overall sleep quality.”

The mental health consequences of sleep deprivation are also very real. Poor sleep can make it more difficult to deal with even minor stressor and impact our ability to accurately perceive the world around us. Depression, anxiety and even suicidal thoughts may result from prolonged sleep deprivation.

Prokasky notes that this study was the first of its kind because it objectively measured sleep patterns in this population.

“No research to date has measured sleep patterns in this way,” she says. “Self-reporting has always been used in the past. We know that sleep data collected this way is notoriously over reported.”

Findings of the research will be incorporated into ongoing sleep-related educational efforts.

“We know that insufficient sleep leads to chronic heart disease, obesity, and other illnesses,” Prokasky says. “Agriculture is already a high risk occupation. We don’t want to increase potential for injury or fatalities through chronic sleep deprivation.

“There are many things about agriculture that farmers cannot control,” she adds. “Weather and equipment issues are just two factors. By using this data, we can provide practical advice to farmers and ranchers so they can make quality decisions that affect their health and well-being as they accomplish their tasks.”

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