

## Night shift work may raise type 2 diabetes risk in women - Tehran Times

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A study of two groups of women found that those who worked rotating night shifts were more likely to develop type 2 diabetes than women with regular hours, and the longer that they worked a rotating shift schedule, the greater their risk. "The association is quite strong and very consistent between the two cohorts," said the study's senior author, Dr. Frank Hu, a professor of nutrition and epidemiology at the Harvard School of Public Health in Boston.

"For nurses who spent a couple of years working rotating night shifts, there was a minimal increase in risk. But, for those with a very long duration of rotating shifts, the risk was almost 60 percent higher. This provides pretty strong evidence that the longer the rotating night shift work, the greater the risk of diabetes," Hu said.

Results of the study are published in the December issue of PLoS Medicine.

Rotating shift work is becoming more common, according to background information in the study. Several studies have found a link between these varying or unusual work schedules and obesity and metabolic syndrome (a group of symptoms, such as high blood pressure and insulin resistance, linked to a higher risk of heart disease). Both factors are associated with an increased risk of type 2 diabetes. Recently, a few studies on Japanese men found a link between working the night shift and type 2 diabetes, according to the study.

For the current study, rotating shift work was defined as working three or more nights a month, plus days and evenings. Hu and his team looked at data from two groups of women involved in the U.S. Nurses' Health Studies I and II. There were more than 69,000 women between the ages of 42 and 67 in the first study, and nearly 108,000 women between the ages of 25 and 42 in the second study. When the women enrolled in the trials, none had diabetes, cardiovascular disease or cancer.

During the 18- to 20-year study period, 6,165 women in the first group and almost 4,000 women from the second group developed type 2 diabetes.

When compared to women who hadn't done rotating shift work, women who did one to two years of shift work had a 5 percent increase in type 2 diabetes. Women who worked shifts for three to nine years had a 20 percent increased risk, while women who toiled 10 to 19 years on rotating shifts had a 40 percent greater risk of type 2 diabetes compared to women who didn't do shift work.

Women with more than 20 years on a rotating work schedule had the highest risk of all, with a 58 percent increase in the risk of type 2 diabetes, the study found.

When the researchers adjusted the data to account for body mass, the association between shift work and type 2 diabetes was reduced, but still present, they said.

Although the study wasn't designed to figure out why rotating shift work might increase the risk of type 2 diabetes, Hu said there are likely both biological and behavioral reasons. Rotating shift work disturbs the body's natural time clock (circadian rhythm), which, in turn, disrupts the body's ability to balance its need for energy. Hu said this can cause higher levels of glucose and insulin resistance, which are hallmarks of type 2 diabetes.

Working on rotating shifts also affects eating and sleeping behaviors, and women who worked rotating shifts also tended to smoke more.

"Shift work is an important risk factor for obesity and type 2 diabetes," Hu said. "This study increases the awareness of diabetes risk among people who work on a rotating shift, and the importance of diabetes screening, detection and prevention in this high risk group." More research is needed to confirm the findings, the authors said.

Worldwide, about 346 million people have diabetes. Most of them suffer from type 2 diabetes, typically caused by excess body weight and physical inactivity. Over time, the disease can damage vital organs, including kidneys, nerves and heart.

Dr. Joel Zonszein, director of the clinical diabetes center at Montefiore Medical Center in New York City, said other influences besides work hours may have contributed to the development of diabetes among the study participants.

"This study shows an association between working night shifts and obesity and diabetes. But, it's difficult to disassociate other risk factors," Zonszein said. "It may not just be that they work at night. They may work harder; they may be more stressed. There was more smoking. All of these things are related."

**(Source: USA Today)**