

Altered mealtimes linked to depression, anxiety in shift workers

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Folks need to have their meals at regular intervals or risk slipping into anxiety or depression, a new study of airline personnel has found.

Delaying breakfast or dinner appears to increase a person's risk of developing a mood disorder, researchers report.

The study also found that confining [meals](#) to a 12-hour "eating window" every day helps sustain an even mood—good news for folks who engage in intermittent fasting.

"An eating window of less than 12 hours may be associated with reduced severity of anxiety or [depression](#)," concluded the research team led by Mi Xiang, an associate professor with Shanghai Jiao Tong University in China.

For the study, researchers analyzed data from more than 22,600 airline crew members participating in an ongoing health survey of employees at China's major airlines.

The team tracked when participants ate breakfast and dinner, and how much time passed between meals.

They then compared that data to the crew members' scores on anxiety and depression screening tools.

They found that people working a [day shift](#) who delayed their dinner past 8 p.m. had twice the risk of depression and a 78% higher risk of anxiety, compared with when they ate before 8 p.m., according to results [published](#) July 17 in the journal *JAMA Network Open*.

Similarly, delaying breakfast until after 9 a.m. increased the risk of depression by 73%, and anxiety by 79%, results show.

Those working a [night shift](#) or on a day off also had an increased risk of anxiety or depression associated with delayed meals, researchers found.

The link between delayed meals and poor mood also was observed in people whose mealtimes suffered from jet lag, results show. Any delay caused an increased risk of anxiety or depression.

"We found that the dietary rhythms of individuals in this profession varied depending on the time of flight operations [[early morning](#) or late night]," researchers wrote. "These irregular eating rhythms were associated with higher odds of anxiety and depression."

However, people who ate all their meals within a 12-hour window every day had a 16% reduced risk of [anxiety](#) and 19% lower odds of depression, compared with people who ate earlier and later in the day.

The research team speculated that shifts in mealtime might affect the body's sleep/wake cycle, also known as the circadian rhythm, causing shifts in metabolism that could ultimately affect mood.

They also noted that the effects from delayed meals found in air crews could be even worse in average folks.

"Through rigorous training and resilience building, airline crews are presumed to be more capable of coping better with stress and managing emergencies than average workers," the researchers wrote in a news release from the American Psychiatric Association.

"Hence, for a typical shift worker, the psychological consequences ... could be more severe," they concluded.

More information: Erliang Zhang et al, Dietary Rhythmicity and Mental Health Among Airline Personnel, *JAMA Network Open* (2024).

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