

IRREGULAR SLEEP, STRESS COULD INCREASE RISK OF CANCER—STUDY

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It seems stress and sleepless nights can take a toll on your body in more ways than one.

Filipino scientists from the University of the Philippines discovered the molecular basis on how the body's circadian rhythm—or the internal processes that regulate a person's sleepwake cycle—could contribute to the development of breast cancer.

This means that women who are likely to have irregular circadian rhythms, such as shift workers and long-haul travelers, are more vulnerable to breast cancer, molecular biologist Pia Bagamasbad told the Inquirer.

These findings, which came out last week in the Cancer Cell International, hope to fill the gap on how sleep patterns and stress could increase the risk of cancer in women.

“What this means is that, if you want to reduce the cancer risk for women, we have to maintain that regularity and we have to have interventions especially for women who are doing shift work, and restore that regularity and the light-dark cycle in the body,” she said in an interview. Since 2020, she and her student Weand Ybanez looked at data from thousands of published literature on breast cancer to see how a person's circadian rhythm affects cancer development. Normally, a healthy circadian cycle regulates bodily functions like sleeping, waking, digestion, and the activation of certain hormones—like stress— at different times of day.

At the heart of this hormone signaling is a gene called the Krüppel-like factor 9 (KLF9), which is also regulated by the circadian rhythm.

In normal breast tissue, Bagamasbad said, the KLF9 “oscillates” in the same way as a healthy circadian rhythm and can even suppress tumor growth.

However, they found that when that cycle is disrupted, the KLF9 gene is either lowered or lost, especially in highly aggressive forms of cancer.

Simply put, she said, “when your cells have more KLF9, it has a better chance of blocking cancer development.”

This finding, published just as the world celebrates International Women's Month, sheds light on the work hazards faced by women who work odd shifts, and who live “with their days and nights reversed.”

This is the case for women who work in the business process outsourcing industry, who are exposed to light in the nighttime.