

Lack of sleep found to be a new risk factor for aggressive breast cancers

August 27 2012

Lack of sleep is linked to more aggressive breast cancers, according to new findings published in the August issue of *Breast Cancer Research and Treatment* by physician-scientists from University Hospitals Case Medical Center's Seidman Cancer Center and Case Comprehensive Cancer Center at Case Western Reserve University.

Led by Cheryl Thompson, PhD, the study is the first-of-its-kind to show an association between insufficient sleep and biologically more [aggressive tumors](#) as well as likelihood of [cancer recurrence](#). The research team analyzed medical records and survey responses from 412 post-menopausal breast cancer patients treated at UH Case Medical Center with Oncotype DX, a widely utilized test to guide treatment in early stage breast cancer by predicting likelihood of recurrence.

All patients were recruited at diagnosis and asked about the average sleep duration in the last two years. Researchers found that women who reported six hours or less of sleep per night on average before breast cancer diagnosis had higher Oncotype DX [tumor recurrence](#) scores. The Oncotype DX test assigns a tumor a recurrence score based on the [expression level](#) of a combination of 21 genes.

"This is the first study to suggest that women who routinely sleep fewer hours may develop more aggressive breast cancers compared with women who sleep longer hours," said Dr. Thompson, who is Assistant Professor at Case Western Reserve University School of Medicine and lead author. "We found a strong correlation between fewer hours of

sleep per night and worse recurrence scores, specifically in post-menopausal [breast cancer patients](#). This suggests that lack of sufficient sleep may cause more aggressive tumors, but more research will need to be done to verify this finding and understand the causes of this association."

The authors point out that while the correlation of sleep duration and recurrence score was strong in post-menopausal women, there was no correlation in pre-menopausal women. It is well known that there are different mechanisms underlying pre-menopausal and post-menopausal breast cancers. The data suggest that sleep may affect carcinogenic pathway(s) specifically involved in the development of post-menopausal [breast cancer](#), but not pre-menopausal cancer.

"Short sleep duration is a public health hazard leading not only to obesity, diabetes and heart disease, but also cancer," said Li Li, MD, PhD, a study co-author and family medicine physician in the Department of Family Medicine at UH Case Medical Center and Associate Professor of Family Medicine, Epidemiology and Biostatistics at Case Western Reserve University School of Medicine. "Effective intervention to increase duration of sleep and improve quality of sleep could be an under-appreciated avenue for reducing the risk of developing more aggressive breast cancers and recurrence."

Provided by University Hospitals Case Medical Center

Citation: Lack of sleep found to be a new risk factor for aggressive breast cancers (2012, August 27) retrieved 26 April 2024 from <https://medicalxpress.com/news/2012-08-lack-factor-aggressive-breast-cancers.html>

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