Seasonal weight changes linked to metabolic syndrome

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Seasonal changes in weight increase the risk for metabolic syndrome, a group of scientists from National Public Health Institute, Helsinki, Finland, reports in a study published in the January 23 issue of the online, open-access journal PLoS ONE.

This finding was based on analysis of 8,028 individuals, representative of the general population aged over 30, who attended a nationwide health examination survey.

According to the current study, individuals with metabolic syndrome have more seasonal changes in their mood and behavior. The study concludes that the seasonal changes in weight in particular are linked to metabolic syndrome.

People having winter blues the risk of metabolic syndrome is heightened by 56 per cent. The negative effect of the seasonal changes equals to the protective effect against metabolic syndrome gained with regular physical exercise.

Because of easy assessment the scoring of seasonal changes in weight might be taken as a routine part of health status examination in persons being at risk of or currently having metabolic syndrome. If there were these changes, treatment options including scheduled exposures to light and regular physical exercise need to be considered.

“Disruption of circadian rhythms has been implicated in the

pathogenesis of metabolic disorders. Our results give support to the hypothesized links between the metabolic and circadian cycles generated and guided by the circadian clock", says Timo Partonen, MD, academy research fellow of the group. "Our findings herein now extend these links to include relationships between the metabolic and seasonal fluctuations."

The current findings now suggest that abnormalities in the circadian clockwork predispose to seasonal changes in weight and to metabolic syndrome. This means that the circadian clockwork may well be a key to public health.

Obesity is an increasing problem concerning public health. High caloric intake or low physical exercise for example may lead not only to obesity but also to hypertension, insulin resistance and abnormal circulating lipid levels. These abnormalities tend to coincide and contribute to the term metabolic syndrome.

Citation: Rintamäki R, Grimaldi S, Englund A, Haukka J, Partonen T, et al (2008) Seasonal Changes in Mood and Behavior Are Linked to Metabolic Syndrome. PLoS ONE 3(1): e1482. doi:10.1371/journal.pone.0001482

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