

CO-ORGANIZED EVENT

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## Seasonality, morningness-eveningness and sleep in common non-communicable medical conditions and chronic diseases in a population

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The seasonal pattern for mood and behavior, the behavioral trait of morningness-eveningness, and sleep are interconnected features that may serve as etiological factors in the development or exacerbation of medical conditions. The study was based on a random sample of inhabitants aged 25 to 74 years living in Finland. As part of the national FINRISK 2012 study participants were invited (n=9905) and asked whether the doctor had diagnosed or treated them during the past 12 months for chronic diseases. A total of 6424 participants filled in the first set of questionnaires and 5826 attended the physical health status examination, after which the second sets of questionnaire were filled. Regression models were built in which each condition was explained by the seasonal, diurnal and sleep features, after controlling for a range of background factors. Of the chronic diseases, depressive disorder was associated with longer total sleep duration ( $p<0.0001$ ) and poor sleep quality ( $p<0.0001$ ). Of the measurements for health status assessment, none was associated with sleep features, but systolic blood pressure yielded significant ( $p<0.0001$ ) associations with both seasonal and diurnal features at large. Sleep quality was the most sensitive probe in yielding associations with chronic diseases in this population-based study. The seasonal variations in mood and social activity, and the ease in getting up and tiredness in the morning were the most sensitive probes in yielding associations with blood pressure and waist circumference. Assessment of sleep quality, seasonal and diurnal features provides added value for health surveys of the general population.

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