

SUICIDE SEASONALITY IN RELATION TO SUNLIGHT DURATION AND SEROTONERGIC MEDICATION

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Introduction: Suicide seasonality with a peak incidence in spring or early summer has been consistently reported. Although a quite robust finding this spring peak of suicides is poorly understood. The effect of climate parameters such as sunlight, temperature, humidity etc. on hormones and neurotransmitters such as serotonin has been hypothesized to explain the seasonal variation in suicide.

Objective: To examine the amplitude of suicide seasonality in relation to sunlight duration and serotonergic medication.

Methods: By using Swedish Registers we gathered information including forensic data on antidepressive medication for 11,845 suicides during 1992 to 2003. Moreover, data for sunlight duration for the same period for all Swedish counties was obtained from the Swedish Meteorological and Hydrological Institute. The presence of suicide seasonality was estimated with a Poisson regression variant, in three groups, as defined by tertiles of sunlight duration.

Results: In regions with low sunlight duration no statistically significant seasonality pattern was found for men independently of medication. In regions with middle or high sunlight duration an increased amplitude of seasonality was observed among men treated with SSRIs in a dose dependent pattern. Such a pattern was not observed among suicide victims on other antidepressant medication or those without an antidepressant. Women on the other hand showed a seasonal variation in suicide only in regions with low sunlight duration.

Conclusions: Suicide seasonality amplitude increases with higher sunlight duration especially in men treated with SSRIs. In women, the highest suicide seasonality was observed in regions with the lowest sunshine duration.