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THE ROLE OF SUNSHINE IN SUICIDE: AN EXPLANATORY MODEL FOR THE SUICIDE PEAK IN SPRING

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Introduction: It is known from previous studies that suicide follows a seasonal pattern with a peak in spring.

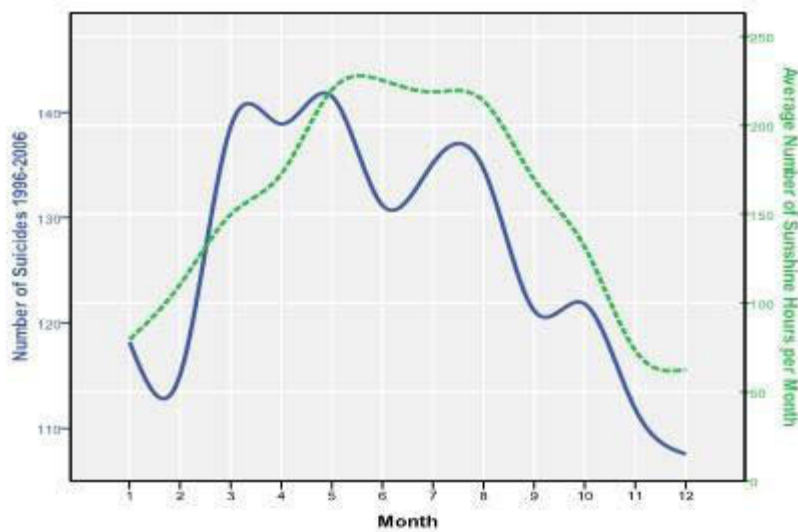
Objectives: Analyze whether suicidal behavior is associated with the increase in the duration of sunshine in spring.

Aims: To investigate the effect of number of sunshine hours per month on suicide rates in Austria between 1996-2006.

Methods: Suicide data, differentiated by month of suicide, gender, and method of suicide (violent vs. non-violent methods), were provided by Statistics Austria. Data on the average number of sunshine hours per month were provided by the Austrian Central Institute for Meteorology. For statistical analysis ANOVA tests and Pearson correlation tests were used.

Results: Suicide frequencies were highest between March and May, lowest between November and January ($df=11$, $F=5.2$, $p < .0001$). The average number of sunshine hours per month was significantly correlated with the number of suicides among both genders $r=.43$ ($p < .0001$), violent methods ($r=.48$; $p < .0001$) but not with nonviolent methods ($r = .03$; $p = .707$).

Conclusions: Light, possibly through interaction with melatonin, norepinephrine and serotonin, may improve motivation and drive first while mood improves at a later point in time. Thereby, a rapid increase in sunshine in spring might increase suicidal tendencies in vulnerable subjects.



[Suicides and sunshine hours in Austria, 1996-2006]