
INITIAL INSOMNIA AND CORTISOL LEVELS IN DEPRESSED ADOLESCENTS

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Introduction

Many studies have observed hyperactivity of the hypothalamic-pituitary-adrenal axis in depression. In general, cortisol levels are tend to be lower in the evenings and exogenous corticosteroids administered around this time are known to cause insomnia.

Objectives

We planned to compare data on evening cortisol levels in subjects with initial insomnia versus those without initial insomnia. We also used peak morning cortisol levels to establish the specificity of our effect.

Aims

To test the hypothesis that high evening cortisol is associated with initial insomnia among depressed adolescents.

Methods

Data from the baseline results of the Improving Mood with Psychoanalytic And Cognitive Therapies (IMPACT) trial were used. There were 471 depressed subjects aged 11-17. Saliva was collected at waking, waking plus 30 minutes and late evening on two consecutive days for cortisol assay. Insomnia was defined as present or absent based on the insomnia item of the K-SADS-PL. Non-parametric analysis was used due to non-normal data.

Results

Median evening cortisol for subjects with initial insomnia was 0.070µg/dl, whereas it was 0.050µg/dl for those without initial insomnia (n=151, Mann-Whitney z = 2.33, p=.02). In contrast, there was no statistically significant difference in morning cortisol levels between the two groups (n=151, p=.93).

Conclusions

As hypothesised, high evening cortisol was associated with initial insomnia. It is possible, therefore, that high evening cortisol drives insomnia among a sub-population of depressed adolescents. However, interpreting the direction of causality is difficult, as sleep deprivation has also been shown to cause high evening cortisol.