
ACUTE EFFECTS OF TRANSCRANIAL BRIGHT LIGHT EXPOSURE ON ANXIETY SYMPTOMS

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Introduction:

Bright light therapy acutely reduces anxiety in patients suffering from Seasonal Affective Disorder (SAD) and in low anxious subjects. Further evidence suggests it might also be effective in highly anxious subjects. Transcranial bright light (TBL) seems to alleviate depressive symptoms in SAD patients.

Objectives:

Depression and anxiety commonly co-occur, hence TBL might also have anxiolytic effects.

Aim:

To test the acute anxiolytic effects of TBL exposure.

Methods:

Twenty-eight participants (F=19, M=9, mean age \pm SD: 44 ± 14 years) with moderate anxiety and depressive symptoms (Beck Anxiety Inventory: mean \pm SD: 19 ± 9 ; Beck Depression Inventory-II: mean \pm SD: 21 ± 9) were randomly assigned to either 12 minutes of TBL or sham exposure (double-blind) under laboratory conditions between 9am and 12am. Acute anxiety symptoms were measured using the Spielberger State-Trait Anxiety Inventory (STAI-Y1) 5 minutes prior and 10 minutes after the exposure.

Results:

Mean anxiety symptoms (STAI-Y1 score) in the TBL group decreased by $12.1 \pm 7.3\%$ from 43.7 ± 2.0 to 38.1 ± 1.4 ($p < 0.001$), whereas symptoms in sham-control group reduced non-significantly by $3.7 \pm 11.3\%$ from 45.6 ± 2.2 to 43.4 ± 1.7 ($p = 0.115$). P-values for relative and absolute difference between groups regarding mean STAI-Y1 scores were 0.024 and 0.048, respectively.

Conclusion:

This is the first randomized, sham-controlled study showing that TBL acutely alleviates anxiety symptoms. Further studies on long-term efficacy of TBL therapy for anxiety symptoms are warranted.