Effect of Audio-Visual Brain Entrainment on Anxiety, General Health, Stress, Quality of Sleep and Work productivity and Activity Impairment: A pilot study with telemarketers

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BACKGROUND

Audio Visual Brainwave entrainment (ABE) occurs when brainwaves synchronize to external rhythmic stimuli, e.g, visual (flickering lights), auditory (Isochronic tones, and/or Binaural beats) or physical (physical vibration).

OBJECTIVE

The objective of this study was to investigate the effect of the Audio-Visual Brain Entrainment (ABE) on Anxiety, General Health, Stress, Quality of Sleep and Work productivity and Activity Impairment of telemarketers.

CONCLUSIONS

Although results did not achieve statistical significant when compared to baseline, ABE positively affect scores related to anxiety, general health, stress, quality of sleep, as well as work productivity and activity impairment of telemarketers. A lager sample size study is necessary to statistically confirm the effects of ABE.

METHOD

The study was conducted at the Salgado Institute of Integrative Health, Londrina, PR - Brazil, and the protocol was approved by the Institutions Ethics Committee. Sample size consisted of 13 telemarketers (3 males and 10 females). ABE was delivered with a BrainTap headset (New Bern - NC - USA) in 20-minute sessions 3 times a week for 6 weeks. Session consists of Binaural beats (18 to 0.5 HZ), Isochronic Tones (18 to 0.5 HZ) and visual Entrainment (470 nanometers LEDs flickering at 18 to 0.5 HZ). The following questionnaires were applied at baseline and after 6 weeks: The Hamilton Anxiety Rating Scale (HAM-A) that measures the severity of anxiety symptoms; the General Health Questionnaire (GHQ-12), a screening device for identifying minor psychiatric disorders; the Perceived Stress Scale (PSS-10), the most widely used psychological instrument for measuring the perception of stress; the Pittsburgh Quality of Sleep Index (PQSI), that scores sleep quality; and the Work Productivity and Activity Impairment Questionnaire (WPAI), that measures impairments in work and activities.

RESULTS

ABE positively affected all scores: HAM-A (A- 22.95%); GHQ-12 (B- 10.93%); PSS-10 (C- 16.86%); PQSI (D- 14.51%); as well as WPAI (E- absenteeism, 41.66%; F- presenteeism, 56.25%; G- work productivity, 56.22%; and H - activity Impairment due to health, 76%).