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Brain activity and the relaxation response

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Background

A substantial body of research focuses on the alterations of brain during relaxation. Using scanning techniques, neuroscientists have discovered increased activity in the left prefrontal lobes of the brain of Buddhist monks in meditation, indicating positive emotions, good mood, self-control and temperament, decreased activity in the parietal lobe, which helps regulate the sense of self and physical orientation and decreased activity in the amygdala [1-3].

Materials and methods

A literature review in MEDLINE with the key words "brain, relaxation" yielded 3.168 articles and another review with the words "Buddhism, brain" yielded 26 articles.

Results

The relaxation response (RR) response is a physical state of deep rest that changes the physical and emotional responses to stress (e.g., decrease in heart rate, blood pressure, muscle tension). If practiced regularly, it can have lasting effects when encountering stress throughout the day and can improve health. The RR has been shown to be an appropriate and relevant therapeutic tool to counteract several stress-related disease processes and certain health-restrictions, particularly in certain immunological, cardiovascular, and neurodegenerative diseases/mental disorders [4]. Further, common underlying molecular mechanisms may exist that represent a connection between the stress response, pathophysiological findings in stress-related diseases, and physiological changes/autoregulatory pathways described in the RR [5]. There are two essential steps to eliciting the RR: (a) Repetition of a word, sound, phrase, prayer, or muscular activity and (b) passive disregard of everyday thoughts that inevitably come to mind and the return to your repetition.

Discussion

RR techniques, regularly part of professional stress management, represent an important tool to be added to therapeutic strategies dealing with stress-related diseases. Moreover, as part of 'healthy' life-style modifications, they may serve prevention. Further studies are necessary to elucidate the complex physiology underlying the RR and its impact upon stress-related disease states.

References

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