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Wake-up pilot study for patients with multiple sclerosis and fatigue: How mindfulness can help?

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Background

60-90% of Multiple Sclerosis (MS) patients suffer from a pathological loss of physical and cognitive energy, called Fatigue which is one of the most debilitating symptoms for patients after stroke, traumatic brain injury and with multiple sclerosis [1]. This symptom can lead to disability and unemployment of patients, many of them quite young of age. Yet effective treatments are lacking, suggesting a pressing need for a better understanding of its aetiology and effective interventions.

Mindfulness-based interventions demonstrated promising results for fatigue symptom relief [2,3]

We performed a mindfulness training in the University Hospital in Freiburg for patients with relapse-remitting or secondary progressive multiple sclerosis suffering from MS-related fatigue and reduced attentional capacities to explore its potential and evaluate the effectiveness of such a program.

Methods

Twenty-three (23) patients participated in the study and data of 21 patients were included in the evaluation, range of age was 21-62, 4 males, 17 female patients, disease duration was 2-28 years, patients with other biological reasons for fatigue (e.g. anaemia or hypothyreosis) and patients with severe depression or other psychiatric diseases were excluded.

Main outcome measures:

1) d2-R attentional capacity test [4]

2) Fatigue Severity Score [5]

Results

The d2-R was done twice with each patient before start of the mindfulness training, an exercise effect could be excluded. The analysis of variance showed that attentional skills improved significantly after the training (time point 1: mean value 26,84, confidence interval (CI) 18,11- 35,57, time point 2: mean value 26,93 CI 15,87- 37,98, time point 3: 45,89, CI 36,14- 55,65, p-value 0.008). The Wilcoxon rank-sum test showed that patients' subjective sense of fatigue severity was significantly reduced after the training (time point 1 median 5.3, time point 3 median 4.2, p-value p=0.001).

Intervention

The mindfulness training was done over 6 weeks in groups of 5-6 patients with weekly sessions of 1.5 hours (plus homework). The standardized mindfulness-based stress reduction program of J. Kabat-Zinn [6] focuses on body perceptions. We adapted the training to the special needs and limited capacities of patients with multiple sclerosis and secondly focused on attentional skills.

Each training session had three components:

a) Mindfulness time (1 hour): Patients were taught the idea of mindfulness in theory and given simple exercises to practice. They were encouraged to be aware of all their thoughts, feelings and body sensations cultivating acceptance toward them rather than react impulsively, e.g. think about and complain endlessly about them.

b) Working time (20 minutes): Patients were challenged to accomplish cognitive tasks (text comprehension, calculating, text production). They were given support to supervise their working technique, working load and working speed themselves.

c) Sharing time (10 minutes): time for appraisal, discussion and sharing experiences

Discussion

We observed that when working, Fatigue patients typically tried to compensate the loss of energy with increased (cognitive) efforts, often making their condition worse, in terms of maladaptive coping [7]. The more they were able to accept and stay in tune with their personal level and limit of energy and adjust their personal ambitions and performance to it, the less they felt exhausted, helpless or frustrated, in terms of adaptive coping. The more they felt in control with a good sense of self-efficacy, the better they were able to accomplish the cognitive task at hand and to learn new information.

Conclusion

Mindfulness can reduce fatigue and improve attentional skills. But this is not a curative treatment. Patients need to be ready to learn the appropriate skills and to practice them regularly every day. This intervention might be best to be applied in the context of rehabilitative medicine. Data have to be interpreted with caution since the pilot study did not include a control group. However, the collected data might be helpful for planning and designing prospective randomized-controlled trials in the future.

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