

Impact of Acupuncture on Fatigue Management in Individuals with Parkinson's Disease

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studies with animal models and *in vitro* studies were also excluded. Three studies (all RCTs) were ultimately identified as meeting inclusion criteria.

Interventions

Different types of acupuncture were used among the three studies. Two studies considered fatigue as their primary outcome measure: One study (Kong, et al) compared sham (non-penetrative) acupuncture (control group) to true (penetrative) acupuncture using a set 11-point treatment based on traditional Chinese medicine (TCM) principles (treatment group), described as the following: It includes For patients in the real acupuncture group, acupoints were needled to a depth of 0.5 to 1 inch, depending on patient's size and sensitivity in the following order: right PC 6, left PC 6, right Large Intestine 4 (LI 4), left LI 4, right ST 36, left Stomach 36 (ST 36), right Spleen 6 (SP 6), left SP 6, right Kidney Meridian 3 (KI 3), left KI 3, and Conception Vessel 6 (CV 6). Thus, a total of 11 acupoints were needled at each session. No flicking or rotation of needles was allowed after insertion. The needles were retained in position for 20 minutes after which they were removed. Each session was based on a strict protocol, and conversation between acupuncturists and patients was kept to a minimum [4].

The second study Klugler, et al. considered sham acupuncture compared to penetrative acupuncture but provided no detail on the acupuncture points used [5]. In the final study (Nazarova, et al.) traditional medical treatment (control group) was compared to traditional medical treatment plus scalp and abdominal electroacupuncture (treatment group). Primary outcomes were changes in the score of clinical scales including the Non-motor Symptom Rating Scale (NMSS), PD Sleep Scale (PDSS), Bristol Stool Function Scale (BSFS), and Patient Associated Constipation and Quality of Life Scale (PAC-QOL). The secondary outcomes were the Unified PD Rating Scale (UPDRS) and Modified Hoehn-Yahr Staging Scale scores. Fatigue/sleep is a subcategory within NMSS, upon which the authors explicitly commented. Neither the specific acupuncture points nor the method of point selection were discussed [6].

Outcome measures

In two studies fatigue was the primary outcome measure, using the General Fatigue score of the Multidimensional Fatigue Inventory (MFI GF) and the Modified Fatigue Impact Scale and respectively. In the third study, the primary outcomes included changes in the Non-motor Symptom Rating Scale (NMSS), of which one subcategory is fatigue/sleep. The authors commented on the statistical significance of the change, though exact data were not provided.

Participants and study design

All three studies included patients with a known diagnosis of PD, in whom traditional medical management (for example: Medications) was continued for the duration of the study. In Kong, et al, forty PD patients with moderate fatigue were randomized into real and sham

to rule out other potential contributors to fatigue (vitamin D deficiency, etc) nor was the seasonal timing of the beginning/end of any of the studies discussed.

None of the studies followed up with patients after the course of the treatment to track the course of the symptoms. Only one study that provided a list of treatment points (and logic for the treatment point selection). While standardized treatment points have a value and are more easily replicated, future studies should consider including treatment groups where patients' symptoms are assessed and treated based on the discretion of an experienced practitioner (not limited to a list of set points). While more difficult to implement this is an oft given criticism of clinical studies of acupuncture.

Conclusion

Few studies exist on the role of acupuncture in the treatment of fatigue in PD. The studies that do exist are small and not all include sham treatment groups, making it difficult to draw conclusions. Existing studies do not always provide detailed information on treatment protocols, making them difficult to replicate. Future studies should include both sham acupuncture and traditional medical ~~control~~ control groups to better elucidate the impacts of true