



CLINICAL EFFICACY STUDY

Anma massage (Japanese massage) therapy for patients with Parkinson's disease in geriatric health services facilities: Effectiveness on limited range of motion of the shoulder joint



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Summary *Objective:* To determine the efficacy of Anma massage therapy for patients with Parkinson's disease (PD) in geriatric health services facilities.

Methods: (1) Immediate treatment effects: 10 PD patients, in the intervention period with Hoehn and Yahr (H&Y) scale at stage 5, received 30–40 min sessions of Anma massage therapy. In the non-intervention period, six PD patients did not undergo this therapy. The shoulder joint range of motion (ROM) was measured before and after each session. (2) Continuous treatment effects: Six PD patients in the intervention period received the same massage sessions once a week continuously for seven weeks. One week after the completion of the treatment, the ROM of the shoulder joints was measured.

Results: (1) Shoulder abduction on the more affected side showed immediate significant improvements. (2) Shoulder abduction on the more affected side and less affected side showed notable effects of continuous treatment procedure leading to significant improvement.

Conclusion: The above results suggested the efficacy of successive Anma massage therapy.

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Introduction

Anma massage therapy ("an" is the Japanese term that denotes applying pressure and kneading, and "ma" denotes stroking) is one of the most popular therapies in Complementary and Alternative Medicine (CAM) in Japan (Donoyama et al., 2010). In general, the Anma massage is applied over the whole body, focusing not only on hypothesized meridians but also on anatomy, especially muscles. The standard Anma massage techniques involve kneading, with lesser amounts of stroking and pressing through clothing using rhythmic massaging motions, and occasionally, brief joint exercises (Donoyama, 2014).

Parkinson's disease (PD) is a common neurodegenerative disorder that worsens over time and is characterized by tremor at rest, rigidity, bradykinesia-hypokinesia, flexed posture, loss of postural reflexes, and the freezing phenomenon. The symptoms of PD are associated with progressive loss of nigral neurons causing striatal dopaminergic denervation. The prevalence of PD is approximately 160 per 100,000, and the incidence is about 20 per 100,000/year (Rowland and Pedley, 2010). Prevalence and incidence increase with age. At age of 70, the prevalence is approximately 550 per 100,000. The Hoehn and Yahr (H&Y) scale is commonly used to compare groups of patients and provide gross assessment of disease progression, ranging from stage 0 (no signs of disease) to stage 5 (wheelchair bound or bedridden unless assisted) (Jankovic, 2008).

According to a clinical research conducted in Japan that included 23,058 PD patients classified as H&Y scale stage 3 (bilateral disease: mild to moderate disability with impaired postural reflexes; physically independent.) or higher, the most common living conditions of such patients is home care (60%), followed by hospitalization or stay in institutions (19%) (Taniguchi et al., 2008). Residents in geriatric health services facilities tend to face difficulties in accessing home nursing care services as they need a high level of care. Additionally, most of the PD patients are anticipated to be in the high H&Y stage. They are at a high risk of falling, have few opportunities to walk freely in a health center, and mostly spend long hours in wheelchairs or beds. Omiya et al. (2011) reported the actual conditions of health care centers for the elderly in Japan in terms of certain parameters such as place of stay, posture, and activities. In the present study, 50 residents in the health care center for the elderly were observed with respect to the above-mentioned parameters in every 10-min intervals during the daytime activity from 9:00 to 17:00. Inactivity and sleep while sitting in a living room or day room were commonly reported.

A study on the clinical symptoms in a large number of Japanese patients with PD ($n = 1453$) revealed the presence of camptocormia in 9.5% of the patients, around eight years and one month after its onset. This condition was more common in females and patients with late-onset PD (Yoritaka et al., 2013). Doherty et al. (2011) reported that the postural deformities in patients with PD result from the interplay of multiple, complex factors, proprioceptive disintegration, loss of postural reflexes, rigidity, and dystonia. Development of over postural deformity might signal either a second hit or an additional acquired risk factor,

such as degenerative spinal disease or back surgery, late-onset myopathy, acquired soft tissue changes, dystonia due to drugs, or a combination of these risk factors. Therefore, it was predicted that longtime physical fixation by the sitting position exacerbates postural deformities and causes the contractures of the neck, shoulder, upper limbs, trunk, and lower limbs. The joint contracture further reduces the activities of daily living (ADL), affects the quality of life (QOL), and increases the health care burdens. Accordingly, this study paid more attention to the importance of shoulder joint mobility on the ADL. However, the severity of disuse atrophy and contracture of lower limbs in H&Y stage 5 led to the exclusion of lower limbs from our evaluation. In this study, PD patients in geriatric health services facilities were examined to evaluate the efficacy of Anma massage therapy on the limited range of motion (ROM) of the shoulder joint, its immediate effects, and long-term effects of continuous treatment.

Materials and methods

Participants

From September 2011 to November 2012, the authors visited two health services facilities for the elderly, each with approximately 200 residents. Ten patients with PD (five women and five men; mean age, 82.5 ± 3.0 [SE] years) who were diagnosed by an experienced neurologist were recruited and informed about this study.

A before and after study design was used. The inclusion criteria for the study involved patients in H&Y stage 5 who complained of limited ROM. The exclusion criteria comprised of patients who could not keep a balanced sitting position or were suffering from severe dementia. After a single session, six patients requested and underwent continuous treatment. The patient profiles are shown in Table 1.

Informed consent

This study was performed under the approval of the ethical committee. The attending physician and the person in charge of the treatment informed the patients and their families in both verbal and written formats about the following facts, Anma massage procedure, evaluation, subjects' advantage or disadvantage, possible risk resulting from Anma massage therapy, publication of the study results, respecting patients' privacy, and patients' right to withdraw from the study at any point in time. Written consent was obtained from the patients and their respective families.

Methods

Procedure

The therapeutic procedures were provided through five basic Anma massage therapy techniques (Table 2). The patients were maintained in the lateral position and treated on the less affected side, and thus, the symptom

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