

Original Research

Effects of Acupuncture/Moxibustion and/or Massage Program on Levels of Health-related Quality of Life and Symptom Distress in Frail Elderly

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Abstract

[AIM] Recently, the demand for acupuncture/moxibustion and massage as adjunct therapies to medical treatment has been on the rise. A number of papers have highlighted the positive effect of these therapies. However, to our knowledge, few studies have reported on the effect of acupuncture/moxibustion and massage on the frail elderly. Therefore, we conducted a pilot study to evaluate the effect of acupuncture/moxibustion and/or massage on the quality of life (QOL) and the level of severity of 20 symptoms prevalent among the frail elderly.

[DESIGN] Observational study

[SETTINGS] Twenty-four clinics belonging to the Society of Practitioners of Acupuncture, Moxibustion and Massage, the Acupuncture and Moxibustion Association, and the Association of Licensed Massage Professionals.

[PATIENTS] Elderly users 65 years and above, willing to respond to study questions, able to stand up, attending hospital as outpatient, and not having received acupuncture/moxibustion or massage within 3 months of enrollment.

[INTERVENTION] Thirty-minute sessions of customized therapy consisting of acupuncture/moxibustion and/or Japanese-style massage, administered at differing frequencies depending on the patient's needs.

[MAIN OUTCOME MEASURE] Health-related QOL (Short Form-36) and symptom severity were evaluated at baseline and at 3 months.

[RESULTS] For the 8 SF-36 sub-scales, namely Role Physical, Role Emotional, Physical Functioning, Social Functioning, Mental Health, Vitality, Body Pain, and General Health, the figures indicate clinically significant change over time for these patients. In anorexia, nausea, loss of sleep, depression, anxiety, shoulder or neck stiffness, back pain, lower back pain, and arthralgia, there were significant improvements over time ($p=0.04$, 0.05 , <0.01 , 0.01 , 0.01 , 0.01 , 0.02 , <0.01 and 0.03 , respectively).

[CONCLUSIONS] Our study suggested that acupuncture/moxibustion and/or massage have a positive effect on physical and mental health among the frail elderly. Larger studies are nevertheless needed to confirm these results.

Key words: *Acupuncture/Moxibustion, Massage, Health-related Quality of Life, Symptom Distress, Elderly*

I. Introduction

One of the byproducts of the aging of the population is a rise in the number of frail elderly patients attending hospitals as outpatient. The aged are vulnerable to various chronic medical problems that are difficult to alleviate by relying solely on Western medicine; attention has thus recently increasingly focused on ways to enhance the quality of life of the elderly through alternative methods. The steadily increasing elderly population intensifies the need for integrating complementary and alternative treatment with Western medicine¹⁾.

In Japan, acupuncture/moxibustion and massage have been used since ancient times; these therapies are offered by trained professionals and are partially covered by public medical insurance as an alternative medical service¹⁾. Recently, the demand for acupuncture/moxibustion and massage as adjunct therapies to medical treatment has been on the rise¹⁾. There is now a need for "evidence-based alternative medicine" in addition to evidence-based medicine^{1,2)}. As for acupuncture/moxibustion and massage, a number of papers have highlighted their positive effect³⁻⁹⁾. However, to our knowledge, few studies have reported on the effect of acupuncture/ moxibustion and massage on the frail elderly.

We therefore conducted a pilot observational study to evaluate the effect of acupuncture/moxibustion and/or massage on the quality of life (QOL) and the level of severity of twenty symptoms prevalent among the frail elderly.

II. Materials and Methods

1) Study population (Figure 1)

We contacted the following associations in Aichi prefecture to explain our study procedure: the Society of Practitioners of Acupuncture, Moxibustion and Massage, the Acupuncture and Moxibustion Association, and the Association of Licensed Massage Professionals. These three societies are non-profit organizations comprised of licensed practitioners of acupuncture/moxibustion and/or massage. Twenty-four practitioners agreed to join our study. Patients were recruited for a period of eight months, from December 2004 through July 2005. The study practitioners were in charge of recruitment. The inclusion criteria were as follows: 65 years and above, able to respond to study questions, able to stand up, attending hospital as outpatient, and not having received acupuncture/ moxibustion or massage within 3 months of enrollment. All eligible participants were required to sign informed consent forms. Also, this study was de-

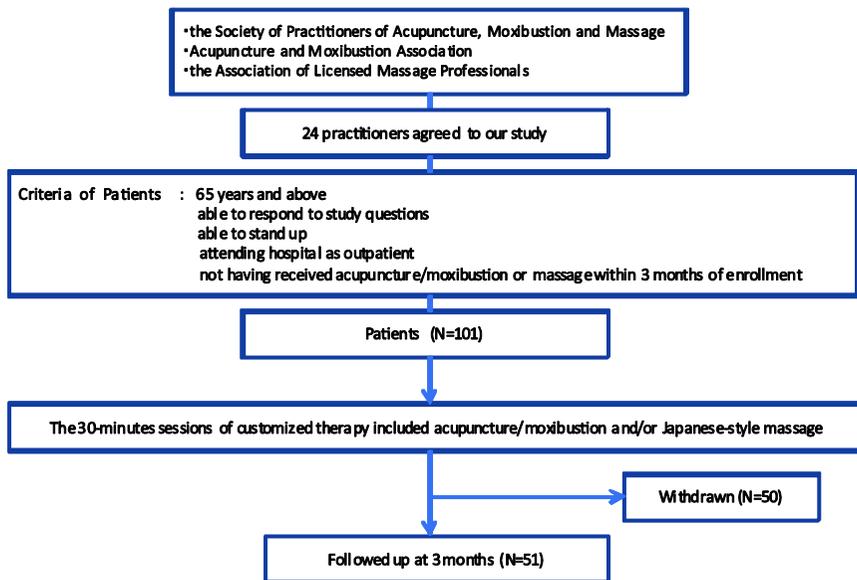


Figure 1. Flow chart for study population.

signed to allow patients to respond anonymously to questions. Because there is no definite agreement on the meaning of the term "frail" in the world¹⁰⁾, we defined the "frail elderly" as elderly who can stand up but who attend a hospital as outpatient, as mentioned in our study inclusion criteria.

2) Treatment

At each clinic, patients received 30-minute sessions of customized therapy consisting of acupuncture/moxibustion and/or Japanese-style massage. Some applicants also received hot pack therapy, photothermal therapy, kinesitherapy, and other alternative treatments. Japanese-style massage is a two-faceted medical therapy comprised of: therapeutic massage and nursing massage¹⁾. Both approaches consist predominantly of rubbing and finger-pressure techniques. Therapeutic massage aims at the direct treatment of illnesses in internal medicine, orthopedics, neurology and other fields. Meanwhile, nursing massage aims at the indirect treatment of illnesses, acting to prevent or improve the patient's weakness or fatigue. Kinesitherapy includes sitting balance exercises, sitting up exercises, standing-up exercises, gait exercises, and range of motion (ROM) exercises.

In Japan, acupuncture/moxibustion and massage are widely used as joint therapy¹⁾. Therefore, we opted to consider them as a single therapy unit rather than as distinct therapies based on the advice of the above-mentioned associations. We therefore analyzed and assessed the effectiveness of these therapies as a whole.

3) Baseline and Follow-up Assessment

Using a standard questionnaire, assessments were performed at baseline and at 3 months. To avoid the influence of any interaction with the practitioner on the patient's replies, both assessments were conducted prior to the visit of the practitioner. The questionnaire broached two main issues: health-related QOL and symptom severity. The health-related QOL of participants was assessed based on The Medical Outcomes Study Short Form 36-Item Health Survey (SF-36), which is a widely used, standardized questionnaire consisting of 36 questions^{11,12)}. We calculated the usual eight-dimension scores. Symptom severity was assessed based on our original questionnaire which focused on the following twenty symptoms: anorexia, nausea, constipation, shortness of breath/ palpitation, cough/ sputum, weakness, indigestion, dizziness, loss of sleep, exhaustion, chilling/rush, ringing, irritation, depression, anxiety,

Table 1. Baseline characteristics of subjects (N=51)

Variables	Mean/ Number	SD/ %
Age (y)	74.67	6.07
Gender (female)	36	70.59
Disease		
gout	0	0.00
rheumatism	2	3.92
arthritis	10	19.61
hernia	4	7.84
hypertension	20	39.22
diabetes	7	13.73
hyperlipidemia	7	13.73
cerebrovascular disease	2	3.92
cardiovascular disease	5	9.80
cancer	1	1.96
pulmonary disease	2	3.92
gastrointestinal disease	4	7.84
hepatobiliary and spleen disease	0	0.00
genitourinary disease	5	9.80
gynaecological disease	1	1.96
allergy	1	1.96
others	9	17.65

Table 2. Frequency of therapy administration (N=51)

Item	Number					
	1/month	2-3/month	1/week	2/week	3/week	4/week
Acupuncture/Moxibustion	0	4	14	15	7	1
Massage	0	3	6	11	1	0
Hot pack	0	1	7	6	4	0
Other therapies*	1	0	2	1	1	1

* Including photothermal therapy or kinesitherapy.

Table 3. Change in SF-36 scores.

Sub-scales	SF-36 scores (Mean±SD)			P
	Baseline	3 months		
Role physical (RF)	45.85±32.23	69.60±26.40		0.000
Role emotional (RE)	51.48±36.56	76.48±28.39		0.000
Physical functioning (PF)	52.87±32.16	65.05±27.41		0.001
Social functioning (SF)	50.82±30.78	72.83±27.17		0.000
Mental health (MH)	55.44±22.93	67.04±22.70		0.002
Vitality (VT)	46.00±22.82	55.45±20.74		0.021
Bodily pain (BP)	37.35±22.82	53.20±21.16		0.002
General health (GH)	43.22±19.37	53.24±21.35		0.003

Table 4. Change in symptom levels.

Symptom	Distress scores (Mean±SD)			P
	Baseline	3 months		
anorexia	1.86 ± 1.36	1.44 ± 0.68		0.040
nausea	1.44 ± 0.98	1.10 ± 0.37		0.048
constipation	2.61 ± 1.59	2.24 ± 1.10		0.159
short of breath/palpitation	1.89 ± 1.10	1.86 ± 1.12		0.454
cough/sputum	1.65 ± 0.88	1.59 ± 1.00		0.851
weakness	1.98 ± 1.16	1.88 ± 1.03		0.765
indigestion	1.83 ± 1.13	1.78 ± 0.99		0.345
dizziness	1.79 ± 0.97	1.73 ± 1.04		0.686
loss of sleep	2.49 ± 1.38	2.02 ± 1.01		0.003
exhaustion	3.00 ± 1.28	2.74 ± 1.31		0.828
chilling/rush	2.28 ± 1.73	2.10 ± 1.19		0.098
ringing	1.53 ± 1.06	1.61 ± 1.03		0.561
irritation	2.35 ± 1.48	2.12 ± 1.33		0.247
depression	2.28 ± 1.53	1.75 ± 0.93		0.009
anxiety	2.53 ± 1.33	2.09 ± 1.04		0.011
shoulder/neck stiffness	3.33 ± 1.39	2.80 ± 1.30		0.014
back pain	2.68 ± 1.55	2.03 ± 1.22		0.017
lower back pain	3.43 ± 1.37	2.74 ± 0.99		0.001
arthralgia	3.14 ± 1.64	2.59 ± 1.28		0.030
numbness	2.34 ± 1.36	1.91 ± 1.00		0.177

stiffness in shoulders and neck, back pain, lower back pain, arthralgia, and numbness. Symptom severity was assessed on a 5-item scale (4=always, 3=often, 2=occasionally, 1=seldom, 0=never) based on answers to the following symptom experience: "To what extent do you experience the following symptom in daily life?" For the follow-up assessment, we used a questionnaire or the telephone to inquire about the content and frequency of the therapies that the patients had received.

4) Statistical analysis

Values are reported as mean \pm standard deviation. We analyzed the significance of differences in measurements before and after the program, using the Wilcoxon signed-ranks test. P values < 0.05 were considered significant. Statistical analyses were performed with Statview J-5.0.

III. Results

A total of 101 patients were recruited for the present study. Fifty-one patients completed the 3-month therapy and pre- and post-evaluations. The remaining 50 patients withdrew for personal reasons and could not be followed-up. The baseline characteristics of the 51 study participants followed-up at 3 months are shown in Table 1. A greater number of subjects were female. Hypertension was the most frequent complication, followed by arthritis. The frequency of therapy the subjects received is shown in Table 2. Forty of the 51 subjects received acupuncture/moxibustion, and twenty-one received massage therapy. As for additional treatment, 19 subjects received hot-pack therapy. Twice a week was the most common treatment frequency for acupuncture, moxibustion and massage.

The effect of acupuncture/moxibustion and/or massage on the SF-36 is shown in Table 3. In the score of 8 SF-36 sub-scales, namely Role Physical, Role Emotional, Physical Functioning, Social Functioning, Mental Health, Vitality, Body Pain, and General Health, the figures indicate clinically significant change over time for the 51 study participants.

The effect of acupuncture/moxibustion and/or massage on levels of symptoms is shown in Table 4. In anorexia, nausea, loss of sleep, depression, anxiety, shoulder or neck stiffness, back pain, lower back pain, and arthralgia, there were significant improvements over time ($p=0.04$,

0.05 , <0.01 , 0.01 , 0.01 , 0.01 , 0.02 , <0.01 and 0.03 , respectively).

IV. Discussion

This pilot study examined the influence of acupuncture/ moxibustion and/or massage therapy programs on the QOL of frail elderly patients with chronic diseases. These therapies are considered to be important features of complementary alternative medicine (CAM.) Despite the increasing popularity of CAM therapy use by patients with chronic diseases or pre-symptomatic disease (Mibyō), very few studies concerning the benefits of CAM therapy have so far been conducted, especially in Japan. We believe that the present study, despite certain limitations such as its restricted size, is valuable in planning additional trials to assess the benefits of CAM therapy for elderly patients.

We experienced difficulties in recruiting frail elderly patients willing to take part in this pilot study. The condition of some of the patients may have been severe due to cancer and cardiovascular disease. Eligibility should have been restricted to patients with minor illnesses. Also, nearly half of the recruited patients who were not satisfied with the therapy or who recovered completely were inclined not to seek further treatment. It is possible that the initial eligibility criteria for this prospective study were not adequate.

Study participants reported decreased levels of distress symptoms such as anorexia, nausea, loss of sleep, depression, anxiety, shoulder or neck stiffness, back pain, lower back pain, and arthralgia, as shown by the 20-item subjective distress scores at the 3-month follow-up. Various studies have documented the physical and/or mental benefits of acupuncture/moxibustion⁷⁻⁹⁾ or massage^{3-6,13)}. The present study corroborated the value of these therapies and revealed a range of benefits for frail elderly patients. A number of studies have reported that endogenous opioid peptides are important substrates for mediation of acupuncture analgesia⁹⁾. Others have revealed that massage decreases the stress response and promotes relaxation. Because distress symptoms have a negative effect on the QOL of the frail elderly, our results offer valuable tools toward the improvement of the QOL of frail elderly, which is one of the aims of geriatric medicine.

Also, our study suggested that acupuncture/moxibustion and/or massage have a positive effect on

physical and mental health, as shown by the SF-36 results. Although it is difficult to make an accurate evaluation on QOL¹⁾, SF-36 is one of the most widely used and reliable scales of QOL⁹⁾. We can therefore assume that our results are consistent enough to confirm the value of the therapy in improving the QOL of the frail elderly.

However, our results should nevertheless be interpreted with caution due to certain limitations with our study. First, because participants might receive other treatments in the hospital during the study period, we should have investigated the medical treatments the patients had received from other sources in order to accurately examine the effects of acupuncture/moxibustion and/or massage programs. Second, the administration procedures of acupuncture/ moxibustion therapy differed from practitioner to practitioner. We did not precisely investigate the methods used to administer acupuncture/ moxibustion such as needling procedure, length and size of the needles, acupuncture points, depth of needle insertion, and number of moxa cones. Also, because intervention frequency is often tailored to the individual needs of patients, we were unable to properly assess the dose-dependent effect of acupuncture/ moxibustion or massage therapy. Third, the scale of this pilot study was too limited to allow us to confirm the effect of acupuncture/ moxibustion and/or massage according to disease or symptom. Finally, our results were biased because the practitioners knew the aim of the study and also because a number of patients dissatisfied with therapy ceased it. A full RCT trial is required to examine whether the changes over time are the result of the program or are the result of the placebo effect.

V. Conclusion

Our study suggested that acupuncture, moxibustion and massage have a positive effect on the physical and mental health of the frail elderly.

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