



Connective tissue massage in the treatment of fibromyalgia

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The aim of this study was to investigate the effect of connective tissue massage in the treatment of individuals with fibromyalgia. The results of this random study of 48 individuals diagnosed with fibromyalgia (23 in the treatment group and 25 in the reference group) show that a series of 15 treatments with connective tissue massage conveys a pain relieving effect of 37%, reduces depression and the use of analgesics, and positively effects quality of life. The treatment effects appeared gradually during the 10-week treatment period. Three months after the treatment period about 30% of the pain relieving effect was gone, and 6 months after the treatment period pain was back to about 90% of the basic value. As long as there is a lack of effective medical treatment for individuals with fibromyalgia, they ought to be offered treatments with connective tissue massage. However, further studies are needed in the mechanisms behind the treatment effects.

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KEYWORDS: connective tissue massage, fibromyalgia, pain, depression.

INTRODUCTION

'You have to learn to live with your pain', is a common message physicians give to individuals with fibromyalgia who often have low quality of life and seek paramedical treatments. Although massage treatments are not paid for by the national health system in Sweden, many women with fibromyalgia prefer massage as treatment of choice. As experienced massage therapists who were surveyed prefer connective tissue massage for the treatment of individuals with fibromyalgia, the effects of connective tissue massage on individuals diagnosed with fibromyalgia was chosen to be examined in this study.

In textbooks, one can read that treatments with connective tissue massage lead to reduced tension in the autonomic nervous system with

secondary increased circulation which gives a sense of warmth, muscle relaxation, pain relief and increased mobility (Hamann & Haschke, 1983; Muschinsky, 1984). Research has also shown that connective tissue massage increases blood flow and gives pain relief (Goats & Keir, 1991). A positive correlation has been found between the degree of muscle tension and pain, and the increase in plasma myoglobin concentration after one massage treatment. After repeated massage treatments a gradual decline in the increase in plasma myoglobin concentration could be demonstrated parallel to a reduction in the muscle tension and pain (Danneskiöld-Samsoe *et al.*, 1983, 1986). It has also been reported that connective tissue massage increases plasma beta-endorphin concentration (Kaada & Torsteinbo, 1989). Connective tissue massage has been shown to reduce tension and anxiety in a study with five subjects (McKechnie *et al.*, 1983).

In contrast, a study with 14 healthy middle-aged women has shown that connective tissue massage had no effect on skin temperature, mean arterial blood pressure and heart rate

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(Reed & Held, 1988). This study on a small group of individuals showed that connective tissue massage had no effect on the autonomic nervous system in healthy individuals.

In Sweden, modified classical massage, 'medical fibromassage', has been used in rehabilitation. Individuals with fibromyalgia reported that 'fibromassage' was the most effective part of their rehabilitation program, but there was no evaluation of the massage itself (Homelius, 1997).

There are few research studies on massage, and the few that have been carried out comprise few individuals. There are even fewer studies dealing with the effect of massage on fibromyalgia. No controlled study on the effect of soft connective tissue massage, or any other kind of massage, in the treatment of fibromyalgia has been found. The aim of this project was to study the effect of connective tissue massage on pain and quality of life for individuals with fibromyalgia.

Connective tissue massage

In classical massage, the therapist works from the periphery towards the centre of the body to affect the venous blood flow, while in connective tissue massage the therapist works from the centre towards the periphery to increase the arterial blood flow. In diseases with chronic inflammation the connective tissue becomes dense. In classical massage, the muscles are treated, but with the manual technique in connective tissue massage the therapist detaches the dense connective tissue, i.e. the supportive tissue. Thus, connective tissue massage is not appropriate for persons who need that support, such as people with abnormally increased mobility of the connective tissue. The method is also not suitable for patients with infections, fever, or an increased tendency to bleed caused either by diseases or medication (Hamann & Haschke, 1983; Muschinsky, 1984).

MATERIALS AND METHODS

Individuals fulfilling the American College of Rheumatology criteria for the classification of

fibromyalgia were offered to participate in the study (Wolfe, 1986; Wolfe *et al.*, 1990). Persons suffering from the disorders described above (abnormally increased mobility, fever, infections, an increased tendency to bleed), as well as those with coronary heart disease, convulsive disease, and severe psychiatric symptoms, and alcoholics were excluded from the study. All individuals were examined by a clinician experienced in working with pain patients (GB). The location of the tender points were plotted in a body chart and only individuals with 11 tender points or more were accepted for the study. The individuals were not physically examined after the treatment period.

There were three follow-ups with validated evaluation instruments: the first directly after the treatment period, the second 3 months after the treatment period, and the third 6 months after the treatment period. The data were computed statistically with Kruskal-Wallis test and Wilcoxon Signed Ranks test.

Evaluation instruments

Pain, disability, quality of sleep, occurrence of anxiety and depression, and quality of life were measured with validated evaluation instruments.

Pain

Pain was measured on a Visual Analogue Scale (VAS). Average pain was defined as the pain experienced during the previous week with a maximum value of 100. An increased value reflected an increase in pain.

Disability

Disability was measured with the Disability Rating Index (DRI). The mean value of 12 activities (ability to dress and undress, walk, climb stairs, sit for a while, stand bent forward, carry a bag, make the bed, run, light manual labour, strenuous manual labour, heavy lift, exercise/sport) was measured with a VAS with a maximum value of 100. An increased value reflected an increase in disability (Salén *et al.*, 1994).

TABLE 1. The number of individuals in the different subgroups.

Part	Number of individuals					
	in the two parts of the study	in the treatment and the reference group	drop outs	remainders	who carried through the first stage of the study, i.e. to the end of the reference period.	
A	23	11 treatment 12 reference	-2	9 12	9 treatment 12 reference	23 treatment
B	29	16 treatment 13 reference	-1 -1	15 12	14 treatment ^a 13 reference	25 reference

^aOne individual allotted to the treatment group was placed in the reference group because due to a journey she could not have carried through the treatments in reasonable time.

Sleep disturbance

Sleep disturbance was measured on an ordinal scale with a maximum value of 5. The mean value for 10 questions about sleep (difficulty to fall asleep, difficulty to wake up, repeated awakening, nightmares, rested when awakening, early awakening, disturbed/anxious sleep, daytime tiredness, irritated eyes, headache) was measured. An increased value reflected an increased seriousness of the sleep disturbance (Åkerstedt & Torsvall, 1977).

Anxiety and depression

Hospital Anxiety and Depression Scale (HAD) was used to measure anxiety and depression with a maximum value of 21 for each subscale (Zigmond & Snaith, 1983). A score of 7 or less represents anxiety/depression, 8-10 doubtful cases of anxiety/depression, and a score of 11 or more represents definite anxiety/depression.

Quality of life

Quality of life was measured with the mean value for eight different variables (life in general, economy, leisure time, sexual life, marriage, family life, friends and autonomy) describing satisfaction with life on an ordinal scale with the maximal value of 6 (Fugl-Meyer *et al.*, 1991). A higher score reflected an increased satisfaction with life.

Quality of life was also measured with the Fibrositis Impact Questionnaire (FIQ) which is a quality of life scale with ten subscales especially for individuals with fibromyalgia with a total

maximal value of 100 (Bennett *et al.*, 1991). The reference value for individuals with fibromyalgia was in a large Swedish study 64.8, S.D. 1.9.

Quality of life was also measured with the Quality of Life Scale (QOLS). The QOLS has a scale with 16 subscales especially for individuals with rheumatoid diseases. Each subscale has a maximum score of 7 and a total maximum score is 112 (Burckhardt *et al.*, 1992).

Study group

Fifty-two people participated in the study, which was divided into two parts: part A (n=23) and part B (n=29) (Table 1). In both parts of the study the participants were divided randomly into two groups: a treatment group and a reference group. The study was split into two stages. Forty-eight people, 47 women and one man with a mean age of 48 years (SD 12.4), completed the first stage of the study. Three individuals from the treatment groups and one from the reference groups dropped out (one individual who was at first assigned to the treatment group part B of the study was moved to the reference group before the start of stage 1 began as she would have been unable to carry out the treatments within a reasonable time due to travel). The treatment group in both part A (n=11) and B (n=16) received connective tissue massage during the first stage. The reference group participating in part A (n=12) was not treated at all in the first stage and the reference group in part B (n=13) participated in a discussion group once a week during this stage. The 25 individuals from the

TABLE 2. The comparison of the treatment and the reference groups *before* the study.

Studied variable	Treatment group (n=23)			Reference group (n=25)			Kruskal-Wallis test	
	Mean	Median	SD	Mean	Median	SD	Chi-square	p value
Current pain	63.04	64.00	20.25	60.60	52.00	20.48	0.23	0.68
Average pain	66.46	70.00	22.47	69.63	73.50	19.92	0.12	0.73
Ability for activities	61.52	62.00	14.77	66.80	69.00	14.55	1.20	0.27
Sleep	3.42	3.40	0.57	3.63	3.70	0.68	1.62	0.20
Anxiety	9.39	9.00	4.01	8.84	9.00	4.14	0.21	0.65
Depression	8.65	9.00	3.46	8.28	9.00	4.94	0.18	0.67
Mean for quality of life variables	4.00	4.00	0.89	3.51	3.30	1.12	2.94	0.09
FIQ	62.85	64.00	15.91	67.65	68.00	10.72	0.59	0.44
QOLS	74.80	82.00	20.44	68.86	70.50	16.81	2.06	0.15

reference groups in part A and part B started the second stage of the study, during which they received connective tissue massage. One of the individuals left after only two treatments due to deterioration. Forty-seven people in total completed the treatment series with connective tissue massages during the course of the study. The individuals in the treatment groups only took part in the first stage. Analyses of demographical data as well as health data showed that the treatment and the reference groups were comparable (Table 2).

Patient characteristics

All of the individuals participating in the study were well educated. At the time of the study they were either on full-time or part-time sick leave. Almost 60% reported that other family members experienced pain, 10% that a child in their family experienced pain and 20% that several members of their family experienced pain.

Pain character

Pain was described as comparable with tonsillitis, intense dull toothache or worse by 77% of the individuals taking part in the study, and as comparable to stiffness after exercise by 23%. Sixty percent of the participants were affected to a very high degree by their pain, sometimes almost to paralysis, 17% could accept only light pain and 6% could not accept any pain. Eighty-six percent had experienced pain for more than 5 years and 50% for more than 10 years.

Pain consequences

Sleeping difficulties due to pain was reported by 80%, and out of these 23% had great difficulties. The activities most difficult to perform were to carry a bag, exercise, lift and run. The mean value of 12 different activities was considerably lower than for healthy people. Increased anxiety level was reported by 58%. Depressive symptoms were reported by 56% (score >7 in HAD), of whom 35% were estimated to have clear signs of depression (score >10 in HAD). Dissatisfaction with life was reported by 31%, dissatisfaction with their sexual life by 65%, dissatisfaction with their leisure time by 57%, dissatisfaction with their marriage by 26%, dissatisfaction with family life by 18% and dissatisfaction with the ability to help themselves by 17%.

Treatment with prescribed drugs

Thirty-one percent of the participants had been taking analgesics daily for months. At the start of the study, sedatives were taken by 19%, hypnotics by 23% and antidepressants (SSRI) by 45%. The treatments with antidepressants had in all cases started several months before the study and thus the antidepressive effects of these drugs were supposed to be stable.

Treatment program

Each individual was treated 15 times during a 10-week-period. The treatment program consisted of seven different procedures: (a) massage of the

pelvic area; (b) massage of the back area; (c) massage of the shoulder area; (d) massage of the abdomen; (e) breathing exercises with the aim of increasing mobility of the diaphragm; (f) massage of the legs; (g) massage of the site of pain. A procedure was added as soon as the condition of the patient permitted, i.e. when the treatment was not accompanied with deterioration in regard to nausea, headache, pain or stiffness. All the different procedures were carried out in every treatment program. The participants were recommended to perform neck, low back and breathing exercises at home.

About 700 treatments were given by 17 massage therapists. All of them had had at least 450 h of training. The head teacher in connective tissue massage of the Axelson's Body Work School, an institute for massage education, co-ordinated the therapists and was responsible for the treatment program.

RESULTS

The study started with 52 individuals, of whom 48 completed the first stage, 23 in the treatment groups and 25 in the reference groups (Table 1). Three individuals in the treatment groups and one in the reference groups left the study before the completion of the first stage: one due to heart disease, two due to lack of time, and one due to travelling abroad. All except two persons were treated 15 times: one gave up after 13 and another after 10 treatments, due to lack of time or a disease other than fibromyalgia. No one started any other physical treatment during the study period.

Subjective effect of the treatment

Fewer aches and pains after the treatment series were reported by 85% (20 of 23 subjects). Reports of feeling better were given by 83% (19 of 23 subjects). Of the 47 individuals treated, 34 answered additional questions regarding their experience of the treatments. The treatments were experienced as very painful by 21% ($n=34$), and as somewhat painful by 62%. However, all

except one were interested in continuing with connective tissue massage if more treatments had been offered.

Comparison between the treatment and the reference group

After stage 1 of the study, 30% of the treatment group had decreased their consumption of analgesics. In the reference group, the corresponding figure was 8%. In this group, another 8% had increased their intake of analgesics. Among the individuals who responded with good effect on depression, there was no difference between those who were on antidepressants and those who were not.

Mean values after stage 1 (i.e. after the treatment period and after the reference period) are shown in Table 3. Half of the reference group participated in a discussion group, the other half did not. However, there was no difference between the two reference groups and therefore the results are shown together for both groups. Statistically significant differences were observed in the treatment group for current pain and quality of life. Those who had been treated with connective tissue massage had improved.

Change in experienced health

The results shown in Table 3 refer to comparisons of means for the difference in experienced health after stage 1 (treatment/reference period). As the subjects health varied from the beginning, it may be better to study how great the differences in health were. Table 4 show these differences. The analysis of the data showed statistically significant changes in the treatment group for current pain intensity, depression, and quality of life measured by The Fibrositis Impact Questionnaire (FIQ).

Evaluation by the therapists

Forty-eight people in total started the treatment series (the treatment group in stage 1 and the

TABLE 3. The comparison of the treatment and the reference groups *after* stage 1 of the study.

Studied variable	Treatment group (<i>n</i> =23)			Reference group (<i>n</i> =25)			Kruskal–Wallis test	
	Mean	Median	SD	Mean	Median	SD	Chi-square	<i>p</i> value
Current pain	36.74	40.00	21.68	61.42	59.00	19.63	12.42	0.000
Average pain	58.79	68.00	22.18	64.62	70.00	19.40	0.034	0.85
Ability for activities	56.83	61.00	17.49	64.00	66.00	17.46	2.09	0.15
Sleep	3.27	3.20	0.73	3.62	3.70	0.69	2.67	0.10
Anxiety	7.26	6.00	4.23	9.08	8.50	4.29	1.99	0.16
Depression	6.24	5.00	4.67	8.64	8.00	4.00	3.06	0.08
Mean for quality of life variables	4.46	4.30	0.83	3.64	3.90	1.04	6.30	0.012
FIQ	52.09	51.00	16.02	64.86	67.50	16.33	5.02	0.025
QOLS	77.87	84.00	17.48	70.29	68.50	13.04	2.31	0.13

TABLE 4. Differences between values before and after stage 1 of the study.

Studied variable	Difference		Kruskal–Wallis test	
	Treatment group	Reference group	Chi-square	<i>p</i> value
Current pain	26.30	-1.35	7.61	0.006
Average pain	9.81	6.17	0.034	0.85
Ability for activities	4.70	3.05	0.45	0.50
Sleep	0.02	0.17	1.11	0.29
Anxiety	2.45	0.14	2.84	0.09
Depression	3.09	-0.41	8.31	0.004
Mean for quality of life variables	-0.45	-0.13	2.50	0.11
FIQ	13.35	0.46	4.42	0.036
QOLS	-2.60	5.75	2.94	0.09

reference group in stage 2). One individual in the reference group dropped out after only two treatments. Of the 47 subjects who completed the treatment series with connective tissue massage, 44 have been evaluated with questionnaires by the therapists after the last treatment. The questions dealt with mobility, sleep, mood, ability to concentrate, memory, pain and general health at the time of the last treatment. Each question except the last one had three response alternatives: no change, some change, evident change. The last question dealt with general health and had five alternatives; much worse, worse, status quo, better, much better. The results are shown in Figure 1.

Massage treatment for individuals in the reference group

In stage 2 after the reference period, the individuals in the reference group were treated with connective tissue massage. One deteriorated due

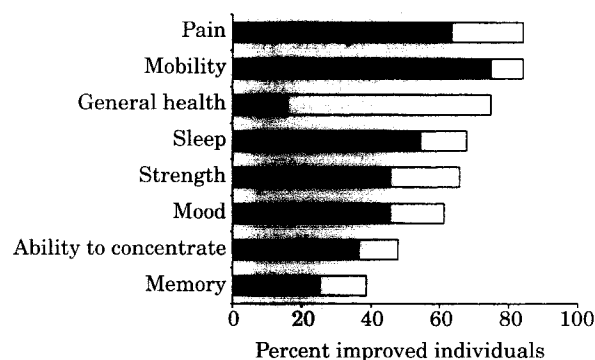


FIG. 1. The evaluation of the treatment effects by the therapists (*n*=44). The whole staples refer to those who have reported improvement while the black staples refer to those who have had much improvement.

to reasons other than the massage and stopped the treatment. The remaining 24 persons were tested with Wilcoxon Signed Ranks test for differences in health after the treatment series, results are shown in Table 5. Statistically significant differences were observed for current pain, average pain, and the quality of life test FIQ.

TABLE 5. The results of connective tissue massage on the reference group in stage 2 of the study (n=25).

	Before the treatment period			After the treatment period			Wilcoxon Signed Ranks Test	
	Mean	Median	SD	Mean	Median	SD	t	p value
Current pain	60.60	52.00	20.48	40.57	40.00	24.06	-3.50	0.000
Average pain	69.63	73.50	19.92	39.76	39.00	30.64	-2.55	0.011
Ability for activities	66.80	69.00	14.55	63.30	65.00	18.81	-0.94	0.35
Sleep	3.63	3.70	0.68	3.50	3.60	6.25	-1.86	0.06
Anxiety	8.84	9.00	4.14	7.91	7.00	4.45	-0.83	0.41
Depression	8.28	9.00	4.94	7.52	7.00	4.11	-1.71	0.09
Mean for quality of life variables	3.51	3.30	1.12	3.73	4.40	1.00	-1.08	0.28
FIQ	67.65	68.00	10.72	53.28	53.00	24.38	-2.26	0.024
QOL	68.86	70.50	16.81	63.40	70.00	23.94	-0.25	0.80

Results 3 and 6 months after the treatment

Initially, the treatment group consisted of 23 individuals. At the 3-month follow-up, one individual in the treatment group refused to answer any more questionnaires. Three people were not followed-up after 3 months but are included in the 6-month follow-up. Thus, the 3-month follow-up consisted of 19 individuals and the 6-month follow-up of 22 individuals. No statistically significant differences were observed for the tested parameters, neither after 3 nor after 6 months.

The prevalence of depression

Even though there were significant improvements regarding depression after the treatments, many participants were still depressed according to HAD (Zigmond & Snaith, 1983). At the beginning, 44% of the individuals in the treatment group fulfilled the criteria for depression (score >10 in HAD), another 17% showed limit values (score 8-10 in HAD). The antidepressant effect of the treatment was at its highest 3 months after the treatment period, when only 21% were depressed (score >10 in HAD). Six months after the treatment period, 30% fulfilled the criteria for depression. About 60% of the individuals were on antidepressants (mainly SSRI) throughout the study period.

How many treatments are needed?

Before each treatment, and at the follow-ups, the current pain intensity of the subjects was estimated with VAS (visual analogue scale). In Figure 2 the mean values are shown for 32 of the 47 individuals who received treatment.

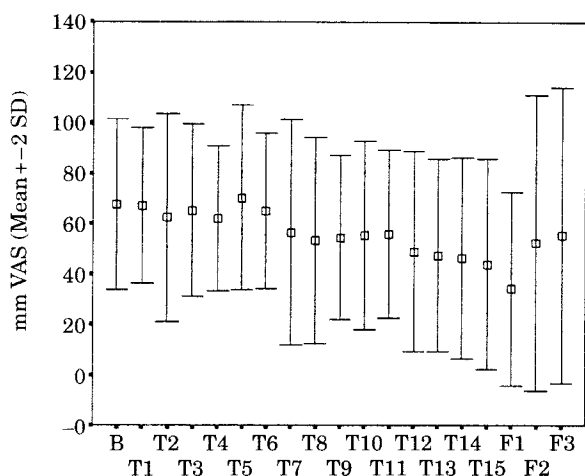


FIG. 2. Pain measured by VAS (mean ± 2 SD) during and after the treatment period with connective tissue massage (n=32). B, before the treatment period; T1 (etc.), before respective treatment; F1, follow-up at the end of treatment series; F2, follow-up 3 months after the treatment period; F3, follow-up 6 months after the treatment period.

DISCUSSION

The study of the effects of connective tissue massage on individuals with fibromyalgia comprised 48 individuals in two groups: one treatment and one reference group. The reference group after stage 1 (reference period), with the exception of one individual, has also been

treated with connective tissue massage in stage 2 of the study. The treatment and reference groups were comparable with regard to demographic and health variables at the beginning of the study. All the participants fulfilled the criteria for the diagnosis fibromyalgia (ARC90 and FIQ).

The results show that

- connective tissue massage gives pain relief to individuals with fibromyalgia.
- the pain relieving effect after 15 treatments is about 37%.
- treatment with connective tissue massage leads to a decrease in the consumption of analgesics.
- the treatment effect of connective tissue massage appears gradually and further improvement might be achieved with more than 15 treatments.
- about 30% of the improvement disappeared within 3 months after the treatment series ended.
- about 90% of the pain returned 6 months after the treatment series ended.
- connective tissue massage has positive effects on depression and quality of life.

The diagnosis fibromyalgia

Many individuals with the diagnosis fibromyalgia wanted to participate in the study. Four individuals with the diagnosis did not fulfil the ARC-90 criteria and were excluded from the study. The diagnostic criteria were followed when selecting participants for the study as the inclusion of individuals with a doubtful diagnosis could make the results difficult to interpret.

The effect of expectation

As similar results occurred in both part A and B of the study, the effects of the connective tissue massage seem to depend on the massage itself rather than to be an effect of expectation. In part

A the reference group had no treatments, while individuals in part B participated in a discussion group. They probably did not experience any positive effect from the discussion group as their presence was characterized by reluctance.

The effect of the therapist

Each participant was treated by one and the same therapist, and there were 17 therapists taking part in the study. Thus, the improvement after connective tissue massage seems to be an effect of the massage itself rather than an effect of the therapist.

The antidepressant effect

As there were no significant changes in the average pain during the last week in the first stage of the study, the antidepressant effect did not seem to be a result of pain relief. The antidepressant effect was not correlated to the intake of antidepressants before the study. Perhaps connective tissue massage—or the touching—has an antidepressant effect in itself. In spite of the positive treatment effect on depression, many participants were depressed and would probably improve with antidepressant medication. The results indicate that individuals with fibromyalgia are insufficiently treated with regard to depression.

The effect on quality of life

In spite of the positive effects connective tissue massage had on depression, there was no significant improvement in quality of life measured by the test described by Fugl-Meyer *et al.* (1991). This test measures satisfaction with life in general, economy, leisure time, sexual life, marriage, family life, friends and autonomy. There were no changes with regard to these variables. The same results were shown for the Quality of life scale (QOLS), a test which also measures the ability of the individual to relate to other people. On the contrary, there were statistically significant

improvements in measurements with the Fibrositis Impact Questionnaire (FIQ), a test which mainly measures the ability to manage one's own life. Changes in relation to other people may take a longer time to establish.

The mechanism behind the improvement

It is not within the scope of this study to explain why connective tissue massage has a positive effect on individuals with the diagnosis fibromyalgia. Earlier findings of a gradual decline in increase in plasma myoglobin concentration may be a mechanism in classical massage where the muscles are treated, but in connective tissue massage the myoglobin hypothesis is less likely. The positive effect on depression follows the pain relieving effect in regard to current pain but not average pain during the last week, where no significant improvement was observed in the first stage of the study. Perhaps the occurrence of depression is independent of existing pain. There is research which indicates a similar mechanism in connection with chronic pain and depression (Von Knorring & Ekselius, 1994; Rouff, 1996). Other studies have shown that touching the skin in itself has positive effects. Touch decreases stress hormones and muscle tension, increases pain thresholds and the individual is affected emotionally (Uvnäs-Moberg, 1997). However, there is a need for further research both in the mechanisms behind fibromyalgia and the mechanisms behind the treatment effects of connective tissue massage. A similar study with touch or other types of massage would also be interesting.

CONCLUSIONS

Connective tissue massage is a treatment which gives pain relief to individuals with fibromyalgia. It also decreases depression and increases quality of life. The analgesic effect appears gradually with the first 15 treatments (1–2 per week). After the last treatment positive effects decrease gradually. At least six months after the last treatment the positive effect is almost completely gone. As long as there is a lack of effective medical treatment for

individuals with fibromyalgia, they ought to be offered treatments with connective tissue massage. After an initial period of at least 15 treatments, the treatment effect may be maintained by further treatments, for example one to two treatments per month. The method should be further investigated. However, treatment with connective tissue massage is not suitable for all individuals with fibromyalgia. Selection should be done by an experienced therapist and caution must be observed with patients who have abnormally increased mobility, fever, epilepsy, bleeding disorders, severe allergies and psychiatric symptoms.

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Commentary

Massage—is it really a reliable method of treatment?

Pain of and discomfort from the musculo-skeletal system are common complaints in a high proportion of the adult population. Health surveys in industrialized countries have shown that 40–50% of the population report of some problems of the kind in any 2-week period considered, and that around 20% regard this to be a serious health problem (Hagen *et al.*, 1997; Lawrence *et al.*, 1998). The development of the musculo-skeletal disorders is furthermore not encouraging, since studies have shown that musculo-skeletal disorders compared to other diseases give rise to most cases of longstanding or prolonged illnesses, often leading to premature pensioning, most limitation of physical activity, and most loss of years with an acceptable quality of life, as well as highest rate of visits to the general practitioner (Rasmussen, 1988; Kjølner, 1995). Musculo-skeletal disorders therefore have severe socio-economic implications and deserve more attention both in terms of developing objective diagnostic methods for and more specific treatment of myofascial pain and fibromyalgia, and in terms of early initiatives to possibly prevent full-blown disease development (Vecchiet & Giamberardino, 1998).

Today, massage is a therapy used in treatment of patients suffering from musculo-skeletal pain syndromes, but it is considered controversial.

Massage has in the hospital physiotherapy regime grown slowly out of fashion, and it is at present not uncommon to consider massage a waste of time with no benefit for the patient. In contrast to this stands the fact that massage has been used as a therapy for many centuries combined with other treatment like heat packs, and it is considered beneficial before starting exercising.

Massage in treatment has developed into a sophisticated art over the last decades, and several types of massage treatment are available today. Despite the long history of massage as a therapy and the development of various types of massage treatment, very few studies exist which demonstrate a significant beneficial effect of massage therapy either in studies of groups or when following the particular patients through and following treatment.

Much money is spent on massage therapy, both from public and private funds. That in itself is a valid reason to set up controlled randomized studies of the effects of massage in treatment of musculo-skeletal disorders, but it is also important in a modern society to focus treatment on methods which are demonstrated to improve the particular patient's condition. So far there is very little scientifically acceptable documentation for a positive effect of massage.