The Effect of ISBT-Bowen Therapy in the Treatment of Myofascial Neck Pain—a Randomized, Single-Blinded Clinical Trial

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Background: Myofascial pain syndrome (MPS) is the most common diagnosis in patient presenting with chronic non-specific neck pain. It affects people's work performance, productivity, and quality of life. To date, there is little research evaluating the effectiveness of non-invasive techniques, such as ISBT-Bowen Therapy in managing neck MPS.

Objectives: To investigate the effectiveness of Bowen therapy in managing myofascial pain syndrome with symptoms lasting for more than six weeks. The study will also examine the long-term effect of ISBT-Bowen Therapy on functional enhancement, quality of life, and physical and mental well-being.

Methods: This is a prospective, single-blinded randomized controlled trial (RCT). A total of 90 myofascial neck pain patients were recruited and randomized to receive 8 sessions of ISBT-Bowen Therapy over a 12-week period (n = 45) or to continue their usual conventional treatment (n = 45). Pressure pain threshold (PPT), cervical range of motion (CROM), numerical rating pain scores, Neck Disability Index (NDI), SF-12 Health Survey (SF-12) Version 2, Generalized Anxiety Disorder 7-item (GAD7), and Patient Health Questionnaire (PHQ9) were measured at baseline, 12 weeks, and 24 weeks after baseline.

Results: When compared with the control group, PPT significantly increased after ISBT-Bowen Therapy at 12 and 24 weeks. CROM on flexion, lateral flexion, and rotation were greatly improved at 12 weeks after Bowen therapy, and maintained at 24 weeks, except left lateral flexion. NDI, GAD7, and PHQ9 were all reduced after Bowen Therapy at both 12 and 24 weeks. Both Physical and Mental Component Summary scores of SF-12 were improved after Bowen therapy at 12 and 24 weeks.

Conclusions: This study confirmed the efficacy of ISBT-Bowen Therapy for patients with MPS. It alleviates pain, improves functional outcomes, enhances quality of life, and relieves mood symptoms.

KEYWORDS: musculoskeletal manipulations; myofascial pain syndrome; neck pain; randomized controlled trials

INTRODUCTION

Neck pain is a common condition. Based on a telephone survey conducted in Hong Kong, two-thirds of the respondents (n=2997) reported neck pain in the past one year. One-third of them suffered from moderate-to-severe pain intensity, which had significant social and vocational impacts.(1)

Myofascial pain syndrome (MPS) is the most common diagnosis in patients with chronic non-specific neck pain.(2) It is characterized by the presence of a myofascial trigger point (MTP), which is a hyperirritable nodule within a taut band of skeletal

muscle. Direct compression or muscle contraction of the spot usually leads to local tenderness or twitch response, with referred pain perceived at a distance.[3] Management of MPS includes analgesics and trigger-point dry needling or injection, which are supported by limited evidence, and are associated with side effects or, rarely, serious complications.[4,5] A systematic review on non-invasive, non-pharmacological treatment for chronic pain suggested that exercise, low-level laser therapy, mind-body practices, acupuncture, and massage improved function and pain.[6] Compared to patients with fibromyalgia, myofascial release therapy was associated with significantly improved intermediate and long-term pain and function versus sham.[7] It is a specialized type of hands-on skill that involves applying sustained and gentle pressure to myofascial connective tissue restrictions to improve motion and reduce pain. Although there is substantial significant clinical evidence of the effectiveness of myofascial release therapy on patients with chronic neck pain,[8] only few studies examine the long-term restoration of function and improvement in quality of life. We assume the treatment provides a consistent improvement in function and/or pain beyond the course of treatment. The alleviation of chronic pain would also improve psychological and physical capacity, and readiness in return to work.[8,9]

In Australia, Bowen therapy was first described by Thomas Bowen (1916-1982). It is a non-invasive myofascial release technique that consists of specific sequences of gentle cross-fibre moves over muscles, tendons, ligaments, and fascia. The moves refer to a few grams of force by applying a direct or indirect action on the restricted fascia layer with slow and continuous pressure. The force will stimulate or improve the flow of blood and lymph, which enhances tissue repair in the affected areas, alleviates pain and tension, restores body function, and relieves the associated psychological stress. Due to its gentle and non-invasive nature, there is no report of adverse effects.[10,11]

Occupational therapists certified by the International School of Bowen Therapy (ISBT) adopt and deliver ISBT-Bowen Therapy in hospitals funded by the Hong Kong Government. A local pilot study on shoulder pain patients showed a reduction in pain and improved range of motion.[12] Other reports and case series addressed the use of ISBT-Bowen Therapy for frozen shoulder,[13] stroke rehabilitation,[14] developmental coordination disorder,[15] and the physical and mental well-being of health care staff.[16] However, the medical literature still lacks high-quality research on Bowen therapy.

Therefore, the objective of the study was to investigate the effectiveness of ISBT-Bowen Therapy in managing myofascial pain syndrome, with symptoms lasting for more than six weeks. They study also examine the long-term effect of ISBT-Bowen Therapy on functional enhancement, quality of life, and physical and mental well-being.

METHODS

Study Design & Ethics

This study was a prospective, randomized controlled trial (RCT) conducted in a university-affiliated tertiary referral hospital in Hong Kong. It complied with ethical principles for medical research as described in the Helsinki Declaration. The Joint Chinese University of Hong Kong (CUHK)—New Territories East Cluster (NTEC) Clinical Research Ethics Committee approved the study on 24 November 2016. It is registered in the Centre for Clinical Research and Biostatistics Clinical Trials Registry, CUHK (unique trial number: CUHK_CCRB00535). The procedures and the right to withdraw at any time were explained to the participants, who all signed written informed consent forms.

Participants

Patients who attended the NTEC Family Medicine Clinic or Pain Clinic with subacute or chronic myofascial neck pain were introduced to ISBT-Bowen Therapy. Interested patients were invited to come for the initial assessment, where, the first author, a pain physician, screened the participants, confirmed their diagnoses, and checked for the fulfillment of the inclusion and exclusion criteria.

Inclusion criteria were age 18 to 75 inclusive, myofascial pain on one or both sides of the neck, symptoms lasting for more than six weeks, and agreement to stop conventional non-pharmacological treatment if allocated to the ISBT-Bowen Therapy group. Myofascial pain was diagnosed by

spot tenderness in a palpable band and subject recognition of the pain, with the absence of neurological deficit.[3]

Exclusion criteria were pregnancy, major psychiatric illness, malignancy, a skin disease affecting the neck area, infectious disease, severe cardiovascular disease, and concurrent use of anti-coagulant.

Participant recruitment commenced in January 2017 and concluded in April 2020. Of 165 patients referred for screening, 75 were excluded from the study. Among them, 58 did not fulfill the inclusion/exclusion criteria, 10 defaulted first assessment, and seven withdrew from participation before randomization. A total of 90 participants were randomized, with 45 allocated to each group.

Randomization and Blinding

Recruited patients were randomly allocated to Group B to receive ISBT-Bowen Therapy or Group C to continue their usual conventional treatment as control. A research assistant who did not participate further in the study prepared the randomization sequence and allotment, placing it in brown, opaque, and sealed envelopes. One research nurse and one occupational therapist (blinded to the group allocation) performed all the outcome assessments. Other occupational therapists and the pain physician could not be blinded to the group allocation, as they needed to provide ISBT-Bowen Therapy and conventional treatment, respectively.

Interventions

In Group B, occupational therapists certified by the ISBT conducted all ISBT-Bowen Therapy sessions. Bowen therapy was started at least one week after the screening visit as a wash-out period after conventional non-pharmacological treatment was discontinued. Bowen therapy was commenced weekly for the first 4 sessions and bi-weekly for 4 more sessions. A pre-designed neck pain protocol was performed progressively through the 8 sessions. The first 2 sessions started with Bowen therapy sequences 2 and 3, and levator scapulae move to release fascial tension over the upper back and posterior neck. A lymphatic neck sequence was added to resolve anterior neck tension in sessions 3 and 4. Treatment was further built up by adding shoulder sequence and pectoral move from the fifth session onwards. Additional neck move was performed over splenius capitis in the last 2 sessions. Each session lasted 15 to 30 minutes. Two-minute pauses were given between the moves or when the patient appeared overstimulated, which allowed the patient's body to respond to the stimulation.

In Group C, conventional treatment was continued from their pre-study period. A health education pamphlet on neck care was given to participants. They are allowed to continue their planned conventional treatment, including physiotherapy, chiropractic therapy, acupuncture, or any self-management. Outcome assessments were arranged at 12 weeks and 24 weeks.

Outcome Measures

Identical sets of physical measurements and questionnaires were performed at three time points: (1) at baseline after informed consent was obtained; (2) immediately after the last session of ISBT-Bowen Therapy which is at 12 weeks after baseline, and (3) at 24 weeks after baseline.

Pressure pain threshold (PPT)

The primary outcome of the study was pressure pain threshold (PPT). The subject was asked to sit comfortably on a chair. The probe of an algometer (The Commander, JTech Medical, Salt Lake City, UT) was placed at the base of the neck, which was over the upper trapezius at the C6-7 level. The metal probe was slowly pushed down, increasing the pressure, until the participant felt the maximum pain sensation. The reading when the patient expressed pain rather than pressure was recorded as PPT. Three measurements were taken on one side, and the average value was recorded. For participants with bilateral symptoms, the side with lower PPT was charted. Such measure has been shown to have excellent inter-rater and intra-rater reliabilities.[17] The algometer has been used to support diagnosis and evaluate the progress of MPS[18,19] objectively.

Cervical range of motion (CROM)

Cervical range of motion (CROM) in 6 directions (flexion, extension, left and right rotation, left and right lateral flexion) without moving their shoulders and trunk was measured using Cervical Range-of-Motion Instrument (Performance Attainment

Associates, Roseville, MN). It has been validated elsewhere.[20-24]

Other physical & psychosocial outcome measures

Patients were given a set of questionnaires for each assessment. The components include numerical rating pain scores (lowest, average, and highest) from 0 to 10, Neck Disability Index (NDI), SF-12 Health Survey (SF-12) Version 2, Generalized Anxiety Disorder 7-item (GAD7), and Patient Health Questionnaire (PHQ9). The occupational therapist asked for the numerical rating of pain scores at the beginning and on the date of the assessment. The Chinese version of the questionnaires used in this study had been validated.[25-30]

STATISTICAL ANALYSIS

All statistical analyses were conducted with SPSS 22.0 for Windows software (SPSS Inc., Chicago, IL). Validation rules were set up accordingly to avoid errors during data entry. Data cleaning was performed to identify abnormal values, corrected after the original records were referred to if any discrepancies were found. Generalized estimating equations (GEE) were used to compare the additional change of outcome measures in Group B with Group C. G power (Version 3.1.9.2)[31] was used to estimate the sample size. A p value < .05 was considered statistically significant. The power calculation was based on the mean PPT at 12 weeks. With reference to a study on the mean PPT of patients with MPS,[32] an effect size of 0.66 was used. To detect a mean ± SD between-group difference of 20% ± 1 SD in the change in PPT, with 80% power, 39 participants per group were required (α = 0.05, two-sided). In anticipation of a possible 20% attrition rate from the study, we increased the total sample size to 45 per group (90 in total).

RESULTS

In Group B, 44 completed ISBT-Bowen Therapy as planned. No adverse events were reported. One patient dropped out from the intervention and subsequent assessment because of a newly developed severe medical condition. Two patients did not show up for the 12- and 24-week assessments. One patient skipped only the 24-week evaluation. Another patient completed the questionnaires but refused to return for physical examination at 24 weeks because of the COVID-19 pandemic. All patients in Group C attended baseline and the 12-week assessment. Two patients did not come back for the 24-week evaluation. As a result, the self-reported outcomes of 41 subjects in Group B and 43 subjects in Group C were analyzed. For physical measurements, 40 subjects in Group B and 43 subjects in Group C were analyzed. The demographic data is presented in Table 1, and the CONSORT diagram is shown in Figure 1.

TABLE 1. Demographic Data[a]

	Control (n=43)	*Bowen (n=41)*
Gender (male : female)	10 (23.3%) : 33 (76.7%)	11 (26.8%) : 30 (73.2%)
Age (yr)	53.3 (10.1)	53.7 (10.6)
Duration of pain (mo)	66.8 (70.8)	78.6 (100.3)

[a]Data are presented as ratio (%) or mean (SD).

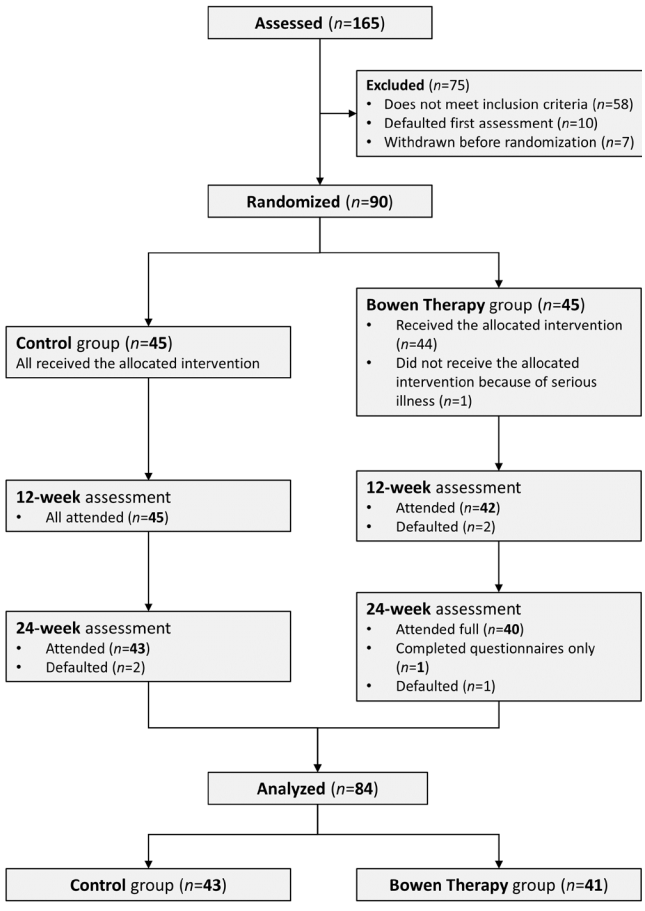

FIGURE 1. CONSORT diagram.

Baseline PPT, CROM, pain scores, and all patient questionnaires outcomes were similar between groups. In the control group, the highest reported pain scores had a reducing trend at the 12-week assessment and reached statistical significance at 24 weeks. Apart from this, there was no statistically significant change in other parameters at 12 and 24 weeks in Group C (Tables 2 and 3).

PPT increased in Group B from 43.93N at baseline to 55.13N at 12 weeks and 52.87N at 24 weeks, significantly improving compared to the control group. CROM on flexion, bilateral lateral flexion, and bilateral rotation were substantially better than control at 12 weeks after ISBT-Bowen Therapy. In addition to left lateral flexion, CROM in these directions remained significantly increased at 24 weeks compared to the control group. There was no significant change in CROM on extension (Table 2).

After receiving a course of ISBT-Bowen Therapy, all pain scores (the highest, average, and lowest reported in the three trials) were decreased at 12 weeks and were sustained at 24 weeks. NDI, PHQ9, and

TABLE 2. Generalized Estimating Equation Analysis of Pressure Pain Threshold and Cervical Range of Motion

	Mean (SE)		*Group Effect*[a]		*Time Effect*[b]		*Group × Time Effect*[c]	
Outcomes	*Control*	*Bowen*	β *(95% CI)*	*P value*	β *(95% CI)*	*P value*	β *(95% CI)*	*P value*
Pressure pain threshold								
Baseline	47.36 (2.74)	43.93 (3.15)	-3.42 (-11.60 to 4.75)	.412				
12th week	45.73 (2.69)	55.13 (3.65)			-1.63 (-6.99 to 3.74)	.553	12.83 (4.53 to 21.13)	.002
24th week	47.19 (3.09)	52.87 (3.87)			-0.17 (-6.15 to 5.81)	.956	9.10 (0.02 to 18.19)	.050
Neck flexion								
Baseline	40.74 (1.87)	40.88 (1.95)	0.13 (-5.16 to 5.42)	.960				
12th week	40.79 (2.07)	46.27 (1.66)			0.05 (-3.18 to 3.27)	.977	5.34 (0.68 to 10.01)	.025
24th week	42.09 (1.90)	48.49 (1.78)			1.35 (-2.23 to 4.92)	.460	6.26 (0.78 to 11.74)	.025
Neck extension								
Baseline	52.88 (1.89)	55.95 (2.65)	3.07 (-3.32 to 9.45)	.346				
12th week	53.58 (1.96)	59.86 (2.30)			0.70 (-2.39 to 3.79)	.658	3.21 (-1.65 to 8.06)	.20
24th week	55.58 (2.08)	62.39 (2.28)			2.70 (-0.27 to 5.67)	.075	3.74 (-1.90 to 9.39)	.19
Right lateral flexion								
Baseline	30.05 (1.41)	28.88 (1.51)	-1.17 (-5.21 to 2.87)	.570				
12th week	29.60 (1.44)	32.73 (1.47)			-0.44 (-2.34 to 1.46)	.648	4.30 (1.52 to 7.07)	.002
24th week	29.81 (1.53)	33.19 (1.54)			-0.23 (-2.44 to 1.97)	.836	4.54 (1.40 to 7.68)	.005
Left lateral flexion								
Baseline	34.00 (1.34)	33.20 (1.40)	-0.81 (-4.60 to 2.99)	.678				
12th week	34.44 (1.15)	38.21 (1.53)			0.44 (-1.14 to 2.03)	.585	4.58 (2.19 to 6.97)	<.001
24th week	36.60 (1.51)	37.60 (1.43)			2.61 (-0.11 to 5.32)	.060	1.80 (-1.67 to 5.28)	.310
Right rotation								
Baseline	51.63 (1.78)	50.98 (1.76)	-0.65 (-5.57 to 4.26)	.795				
12th week	53.33 (1.76)	57.80 (1.89)			1.70 (-1.12 to 4.52)	.238	5.13 (0.96 to 9.30)	.016
24th week	50.65 (1.99)	57.76 (1.75)			-0.98 (-4.67 to 2.71)	.604	7.77 (2.91 to 12.62)	.002
Left rotation								
Baseline	54.60 (1.44)	52.85 (1.94)	-1.75 (-6.49 to 2.99)	.469				
12th week	53.35 (1.47)	59.81 (1.91)			-1.26 (-4.30 to 1.79)	.419	8.01 (3.45 to 12.58)	.001
24th week	54.70 (2.03)	60.21 (1.88)			0.09 (-4.06 to 4.25)	.965	7.26 (1.63 to 12.89)	.011

[a]Group effect was defined as group differences at baseline between intervention and control groups.
[b]Time effect is defined as the change in control group at 12th week compared with baseline, and that at 24th week compared with baseline.
[c]Group × time effect is defined as the additional change in Bowen group when compared with control group at 12th week and 24th week.

TABLE 3. Generalized Estimating Equation Analysis of Pain Scores and Functional Outcomes

	Mean (SE)		*Group Effect*[a]		*Time Effect*[b]		*Group x Time Effect*[c]	
Outcomes	*Control*	*Bowen*	*β (95% CI)*	*P value*	*β (95% CI)*	*P value*	*β (95% CI)*	*P value*
Pain score (highest)								
Baseline	6.86 (0.23)	6.98 (0.21)	0.12 (-0.50 to 0.73)	.715				
12th week	6.30 (0.32)	4.95 (0.33)			-0.56 (-1.17 to 0.06)	.076	-1.47 (-2.38 to -0.55)	.002
24th week	6.30 (0.32)	4.07 (0.37)			-0.56 (-1.05 to -0.07)	.025	-2.34 (-3.23 to -1.46)	<.001
Pain score (average)								
Baseline	5.19 (0.22)	5.37 (0.26)	0.18 (-0.49 to 0.85)	.598				
12th week	5.14 (0.30)	3.57 (0.29)			-0.05 (-0.55 to 0.45)	.855	-1.75 (-2.54 to -0.95)	<.001
24th week	5.09 (0.28)	3.10 (0.32)			-0.09 (-0.52 to 0.33)	.666	-2.18 (-2.95 to -1.40)	<.001
Pain score (lowest)								
Baseline	3.47 (0.24)	3.81 (0.29)	0.34 (-0.40 to 1.08)	.370				
12th week	3.40 (0.31)	2.54 (0.27)			-0.07 (-0.57 to 0.43)	.783	-1.20 (-1.90 to -0.49)	.001
24th week	3.51 (0.27)	2.02 (0.31)			0.05 (-0.46 to 0.55)	.856	-1.83 (-2.57 to -1.08)	<.001
Neck disability index								
Baseline	33.0 (1.96)	32.30 (2.44)	-0.69 (-6.83 to 5.45)	.825				
12th week	31.06 (2.32)	21.06 (2.05)			-1.94 (-5.33 to 1.46)	.264	-9.31 (-14.65 to -3.96)	.001
24th week	32.69 (2.41)	20.39 (2.31)			-0.31 (-3.45 to 2.84)	.849	-11.61 (-16.55 to -6.67)	<.001
SF-12 PCS scores								
Baseline	40.77 (1.01)	41.46 (1.25)	0.70 (-2.46 to 3.85)	.665				
12th week	41.21 (0.90)	45.93 (1.16)			0.44 (-1.73 to 2.61)	.690	4.02 (1.19 to 6.85)	.005
24th week	39.79 (0.90)	46.73 (1.30)			-0.98 (-2.56 to 0.60)	.226	6.25 (3.69 to 8.80)	<.001
SF-12 MCS scores								
Baseline	45.53 (1.33)	44.66 (1.38)	-0.88 (-4.63 to 2.87)	.647				
12th week	45.23 (1.14)	50.17 (0.99)			-0.30 (-2.66 to 2.06)	.802	5.82 (2.76 to 8.87)	<.001
24th week	46.30 (1.27)	50.22 (1.10)			0.77 (-2.02 to 3.55)	.589	4.79 (1.23 to 8.35)	.008
GAD7								
Baseline	6.19 (0.65)	6.07 (0.77)	-0.11 (-2.09 to 1.86)	.911				
12th week	6.05 (0.73)	2.41 (0.42)			-0.14 (-1.22 to 0.94)	.799	-3.52 (-5.33 to -1.71)	<.001
24th week	5.56 (0.66)	3.12 (0.61)			-0.54 (-1.69 to 0.62)	.365	-2.42 (-4.26 to -0.58)	.010
PHQ9								
Baseline	8.74 (0.80)	7.80 (0.84)	-0.94 (-3.21 to 1.34)	.418				
12th week	7.70 (0.74)	3.76 (0.52)			-1.05 (-2.38 to 0.28)	.123	-3.00 (-5.08 to -0.93)	.005
24th week	7.44 (0.75)	3.73 (0.60)			-1.30 (-2.61 to 0.00)	.051	-2.77 (-4.76 to -0.78)	.006

[a]Group effect was defined as group differences at baseline between intervention and control groups.
[b]Time effect is defined as the change in control group at 12th week compared with baseline, and that at 24th week compared with baseline.
[c]Group × time effect is defined as the additional change in Bowen group when compared with control group at 12th week and 24th week.
SF-12 = SF-12 Health Survey Version 2; PCS = physical component summary; MCS = mental component summary; GAD7 = Generalized Anxiety Disorder 7-item questionnaire; PHQ9 = Patient Health Questionnaire.

GAD7 were all decreased after ISBT-Bowen Therapy at 12 and 24 weeks compared to conventional treatment. Both Physical Component Summary (PCS) and Mental Component Summary (MCS) scores of SF-12 were improved after ISBT-Bowen Therapy at 12 and 24 weeks. All these parameters were significantly improved when compared to the control group (all $p<.05$ for group × time effect in Table 3).

DISCUSSION

This study is the first RCT in the literature to confirm the efficacy of ISBT-Bowen Therapy for patients with myofascial neck pain. Compared with conventional treatments, ISBT-Bowen Therapy increased PPT, improved CROM, reduced pain scores, improved occupational performance, improved mood, and improved quality of life. Many of these effects could last at least 12 weeks after completing the Bowen therapy course.

Few studies have investigated the effect of ISBT-Bowen Therapy on PPT. It is a quick, objective measure to quantify pain intensity and deep muscular tissue sensitivity (Newton, N). A previous study suggested that PPT did not change immediately after a single session of ISBT-Bowen Therapy when performed on healthy subjects.[33] In another study on patients with chronic multisite pain, ISBT-Bowen Therapy could also not alter PPT despite reduced pain scores.[34] In contrast, our study demonstrated sustained elevation of PPT after ISBT-Bowen Therapy. These differences can be attributed to our more significant, more homogenous samples, with all measurements obtained from neck pain patients.

Our study showed that subjective pain scores were significantly reduced immediately after all ISBT-Bowen Therapy sessions and 12 weeks after completing the therapy course. ISBT-Bowen Therapy appears to elicit the fascia healing process and facilitates further rehabilitation of performance in daily activities in the post-therapy period. Improvement in the deep muscular tissue sensitivity may promote pain tolerance threshold, and other research is recommended. Our result suggests that ISBT-Bowen Therapy may be a superior option to dry needling and trigger-point injection, whose effects diminished after four weeks, according to meta-analysis.[35,36]

In an uncontrolled study, Bowen therapy increased muscle flexibility and improved the range of motion of patients with frozen shoulders.[13] In our RCT, we consolidated the evidence that ISBT-Bowen Therapy increased CROM in all directions compared to conventional management, except for neck extension in myofascial neck pain patients. Most measurements remained statistically significant at 12 weeks after the therapy. Because myofascial pain is characterized by painful limitation to the full stretch range of motion, and the trapezius is the most often involved muscle, the degree of neck extension may not show any response to the treatment. Further studies are recommended to rectify the ISBT-Bowen Therapy sequence and enhance the clinical effectiveness of neck extension.

Myofascial pain syndrome is known to be associated with depressive and anxiety symptoms.[37] These psychological factors predict chronic neck pain and poor response to treatment.[38] Our study's decreased PHQ9 and GAD7 scores confirm that these mood symptoms could be alleviated with Bowen therapy. Further studies are recommended to explore the psychological determinants in promoting emotional well-being after a course of ISBT-Bowen Therapy.

Myofascial pain syndrome affects health-related quality of life such as sleep, work, and participation in leisure activities.[39] Treatment modalities such as manual therapy, trigger-point injection, exercise, or a combination of them have been shown to reduce neck pain and improve multidimensional functional outcomes.[40,41] In our study, the increased in SF-12 and decreased in NDI scores indicated that MPS patients also could benefit from Bowen therapy in this aspect.

Limitation

There are several study limitations. In this randomized controlled trial, the intervention effect for patients in the control group cannot be neglected. We tried not to arrange placebo treatment to our control group patients. However, because of hospital administrative reasons, patients attending any treatment session must pay a standard fee for care. Any brief health education on neck care or sham treatment may contribute to musculoskeletal health. Although patients have arranged at least one-week wash-out duration before the start of treatment, it may not be adequate to minimize the intervention effect from non-pharmacological therapies. Increasing wash-out duration will increase the dropout rate and decrease the home program compliance rate.

Conversely, control group patients were advised to continue their pre-study management, including physiotherapy, chiropractic therapy, and acupuncture. Any additional treatment effect from private health care services or self-management care may have a confounding effect arisen. Furthermore, recall bias

cannot be neglected among patients in both groups, including their self-reported myofascial pain intensity, home program compliance, and medication history.

CONCLUSION

ISBT-Bowen Therapy is an effective treatment for chronic myofascial neck pain. It alleviates pain, improves functional outcomes, and enhances the quality of life. The reduced myofascial neck pain will activate patients' occupational participation with enhanced physical and mental well-being. Results of the study demonstrated the non-invasiveness of 12 weeks of ISBT-Bowen Therapy provides a favourable option among other therapies in managing myofascial neck pain. It is expected that the successful model of care will be further promoted to all pain clinics in Hong Kong and internationally. Additional research should be considered to explore the medium and long-term ISBT-Bowen Therapy intervention effect in managing myofascial pain at different body parts, compared with pharmacological and other active evidence-based controls.

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CONFLICT OF INTEREST NOTIFICATION

The authors declare there are no conflicts of interest.

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