SHORT-TERM OUTCOMES OF HOME-BASED AND OUTPATIENT PROGRAMS OF PHYSICAL THERAPY IN PATIENTS WITH FROZEN SHOULDER AND MYOFASCIAL PAIN SYNDROME

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Summary

The aim: is to compare short-term results of home-based and outpatient programs of physical therapy among patients with frozen shoulder and concomitant thoracic myofascial pain syndrome.

Materials and methods. The study involved 80 patients. The range of motion in the shoulder joint affected by capsulitis was assessed. A numerical pain scale was used to assess pain sensations when pressing on trigger points. Functional limitations in the shoulder were measured by means of the Oxford Shoulder Score (before and 1.5 months after the end of the physical therapy). Participants were divided into two groups: home-based group (HG) and outpatient group (OG). All the patients were consulted by a physical therapist. OG patients received end-range mobilization with the assistance of a physical therapist 5 times a week to improve shoulder joint mobility. Most of OG participants received 15 procedures (3 weeks). Patients HG performed therapeutic exercises without any assistance at home. (twice a day, 3 weeks). In terms of trigger points therapy, the patients performed ischemic compression without any assistance.

Results. Patients of both groups demonstrated positive dynamics of the studied indicators. Comparison of the short-term results of the therapy according to range of motion and pain showed better indicators in the OG. Comparison of the initial results of the groups in Oxford Shoulder Score items did not reveal any significant differences. Total score was 18.2±6.5 points in OG and 17.6±7.5 points in HG (p=0.715). Me (25 %; 75 %) values were 17.5 (12.5; 23.8) and 18 (13; 23.5) points, respectively. Comparison of the final results of the groups in Oxford Shoulder Score items revealed significant differences. Total score was 47 (47; 48) points in OG and 33 (31; 35.75) points in HG (p<0.001). x ±SD values were 46.5±2.6 and 32.8±4.4 points, respectively.

Conclusions. Short-term results of the outpatient program in terms of pain indicators, mobility of the shoulder joint and functional limitations were better as compared to the home-based program of physical therapy in patients with frozen shoulder and concomitant thoracic myofascial pain syndrome.

Keywords: rehabilitation, musculoskeletal system, adhesive capsulitis of the shoulder joint, manual therapy, mobilization, therapeutic exercises, trigger point

INTRODUCTION

Frozen shoulder (FS) or adhesive capsulitis of the shoulder joint is a widespread concern with an unknown etiology [4, 27]. According to the research, FS commonly affects people aged 50 to 60 years [20], with an incidence ranging from 0.75 % to 8 % [20, 25]. This pathology is characterized by the gradual appearance of pain, limited mobility in the shoulder joint, decreases of both active and passive movement amplitudes [29]. FS is associated with prolonged shoulder disability and disrupted sleep. Inflammation, fibrosis, and contraction of the shoulder joint capsule are among the key causes that explain the symptoms [20]. In addition, movement restriction in some patients is also affected by muscle guarding [12]. FS is considered to have three (freezing phase, frozen phase, thawing phase) [26, 29], sometimes four phases [25]. At the same time, the duration of the disease remains uncertain,
ranging from 15 to 84 months [20]. Residual symptoms, particularly pain and functional limitations, may remain for years [25, 29], which affects almost every aspect of daily activities and the level of the quality of life [14, 29].

Treatment of FS is usually aimed to restore the shoulder joint function, reduce the symptoms, and shorten the duration of disability. However, there is no convincing and definitive evidence of the superiority of any of these methods [4, 25, 29]. The physical therapy (PT) plays a key role in the treatment of patients with MPS and AC [27, 28], as well as in case with other pathologies of the musculoskeletal system [9, 10, 36, 37] and other systems of the human body [5, 6, 34, 35]. PT of FS widely uses supervised and home exercises, muscle energy techniques, stretches, proprioceptive neuromuscular facilitation, end-range mobilization (ERM) [8, 24, 25, 31].

Myofascial pain syndrome (MPS) is characterized by the presence of trigger points (TPs), which are described as painful knots or strips in the skeletal muscles that are tender upon palpation [19]. Palpation of TPs causes local and referred pain [21], as well as local twitch response [33]. Pain can be also caused and increased by stretching or contraction [21]. MPS is common among all age groups [33]. It is usually diagnosed through a physical examination, and its prevalence can be as high as 85% among patients with chronic pain [21] and 93% among patients addressing healthcare institutions because of pain [33]. Latent TPs are present in patients with various diseases of the musculoskeletal system [30], especially those having chronic pain [11]. MPS and TPs are treated with injections, dry needling, PT, including therapeutic exercises and manual techniques [33]. Manual therapy methods include massage, ischemic compression (IC), muscle energy technique, mobilization, counter stain techniques [16, 21, 32]. IC is also called a manual pressure release or trigger point release massage [21].

Despite the widespread prevalence of MPS, physical therapy studies of patients with FS and concomitant MPS are not carried out, which can be explained by the fact that MPS is often not diagnosed in other diseases of the musculoskeletal system [11].

The aim of the study is to compare short-term results of home-based and outpatient programs of PT among patients with FS and concomitant thoracic MPS.

MATERIALS AND METHODS

Participants. The study involved 80 patients who underwent treatment at SI «Institute of Traumatology and Orthopedics of the National Academy of Medical Sciences of Ukraine».

Inclusion criteria and exclusion criteria are presented in previous scientific works [1]. Before undergoing PT, the patients had diagnostic tests and consultations with an orthopedic traumatologist. The participants were divided into two groups according to the PT they received.

Methods. The range of motion in the shoulder joint affected by capsulitis was assessed three times: before the PT (first assessment), after the PT (second assessment), and 1.5 months after the end of the PT (final assessment).

A numerical pain scale (0 to 10) [22] was used in the same periods to assess pain sensations when pressing on TPs (2.5 kg×cm-2, a VTSYQI digital force gauge was used). The analysis recorded the highest pain indicators of each patient.

Functional limitations in the shoulder were measured by means of the Oxford Shoulder Score (OSS), which was developed with the involvement of patients with FS [7]. OSS consists of 12 items, each with five response options. The best answer in the item corresponds to 4 points, with the worst one being 0 points. The total score is the sum of all the items, with its maximum level comprising 48 points (the best result). The OSS was used twice: before the PT (first assessment) and 1.5 months after the end of the PT (final assessment).

Intervention. Participants were divided into two groups: home-based group (HG, n=40) and outpatient group (OG, n=40). All the patients were consulted by a physical therapist.

OG participants were consulted by a physical therapist on the specifics of ERM and IC, including pain levels, importance of interaction with a physical therapist, and measures to reduce pain during the procedures. OG patients received ERM with the assistance of a physical therapist 5 times a week to improve shoulder joint mobility. Mobilization was used in the form of intensive ERM from I to V degrees of intensity according to Maitland classification system. The duration of the procedure was 20–25 minutes. A detailed description of the ERM procedure is available in previous studies [1]. The number of procedures could be changed by the physical therapist. Most of OG participants (85%) received 15 procedures. Other patients received either more or fewer procedures: 2.5% – two procedures fewer; 5% – one procedure fewer; 5% – one procedure more; 2.5% – two procedures more. Thus, the average duration of the PT in OG comprised 3 weeks.

HG participants were consulted on the specifics of therapeutic exercises and IC. Besides, the physical therapist performed a demonstration and evaluated the trial performance of the exercises by the patients. Patients received information letters with the description of the exercises and photos. Patients performed therapeutic exercises without any assistance at home. The complex included pendulum (7–10 minutes) and stretching exercises (15–20 minutes) for the shoulder joint. The exercises were performed twice a day. Planned counseling of the patients of HG by a physical therapist took place at the beginning of the 2nd and 3rd weeks of the PT, and the final one – at the end of the 3rd week. During the consultations, the physical therapist received information from the patients about their exercise practice and IC,
provided additional explanations, and evaluated the dynamics. If necessary, the patients clarified information about their PT. A detailed description of therapeutic exercises is available in previous studies [2]. In HG, the duration of the PT program comprised 3 weeks.

Patients of both groups were advised to perform all the activities, including household ones, with the maximum possible amplitude of movement in the shoulder joint.

In terms of TPs therapy, the patients performed IC without any assistance: OG — in the clinic and HG — at home. During the first consultation, the physical therapist detected localization of TPs and made a map of active and latent TPs, which was later given to the patient. The patient was instructed on the techniques and ways of influencing TPs of different localization. A detailed description of IC is available in previous studies [1]. It should be noted that IC of one TP lasted 30 seconds. Several compressions could take place on one TP. The pain had to be of average or above average level. IC was performed daily for 15-20 minutes.

Statistical analysis. IBM SPSS Statistics 21 program was used in the study. The median (Me) and the lower and upper quartiles (25 %; 75 %) were calculated, since the results of the vast majority of indicators did not correspond to the law of normal distribution (the Shapiro-Wilk test). Mean and standard deviation (±SD) was additionally calculated for key indicators of the functional limitations. The Wilcoxon test (the criterion was converted into Z value) or Student’s t-test for independent groups. The Pearson’s chi-squared test ($\chi^2$) was used for nominal indicators.

RESULTS

The mean age of the patients was 54.5 (50.3; 59) years in OG and 54 (45.3; 60) years in HG ($Z=-0.390; p=0.696$). The groups did not differ statistically in terms of the duration of FS symptoms: 5.5 (4; 7) months in OG and 6 (3.6; 7) months in HG ($Z=-0.764; p=0.445$). The proportion of females was bigger in both groups: 70 % in OG and 65 % in HG. The distribution of patients by gender was the same in the groups ($\chi^2=0.228; p=0.633$). Left-sided FS was diagnosed in 57.5 % of OG patients and 55 % of HG patients ($\chi^2=0.051; p=0.822$). The proportions of patients with an affected dominant upper limb were statistically the same in both groups: 60 % in OG and 55 % in HG ($\chi^2=0.205; p=0.651$).

27.5 % of OG patients and 32.5 % of HG patients received steroid injections after consultation with an orthopedist-traumatologist ($\chi^2=0.238; p=0.626$). The same proportion of the participants received nonsteroidal anti-inflammatory medicine: 5 % of OG and 2.5 % of HG ($\chi^2=0.346; p=0.556$).

The groups did not differ in terms of shoulder joint mobility at the first assessment of the range of motion (table 1). According to the results of the Friedman test, HG patients demonstrated significant dynamics between the assessments, since there were differences in all the pairs of comparisons of goniometry results ($p<0.001$). OG patients also showed significant changes according to the results of comparing all three assessments using the Friedman test ($p<0.001$). However, these results are due to the changes between the first and the second assessments, since there were no differences between the results of the second and final assessments in OG ($p$ value ranges from 0.656 to 1.000). At the same time, OG group had better range of motion results at the second and final assessments as compared to HG (table 1).

Results of movement amplitude of the shoulder joint during assessments, degrees

<table>
<thead>
<tr>
<th>Movement and assessments</th>
<th>passive amplitude</th>
<th>active amplitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OG (n=40)</td>
<td>HG (n=40)</td>
</tr>
<tr>
<td></td>
<td>p*</td>
<td>p*</td>
</tr>
<tr>
<td>Abduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first</td>
<td>56.7 (40; 64.8)</td>
<td>53.5 (46.3; 59.5)</td>
</tr>
<tr>
<td>second</td>
<td>126 (123.3; 126)</td>
<td>92.5 (86; 102)</td>
</tr>
<tr>
<td>final</td>
<td>125 (120; 126)</td>
<td>98 (94; 105)</td>
</tr>
<tr>
<td>Flexion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first</td>
<td>67.5 (56; 87.8)</td>
<td>66.5 (54.3; 71.8)</td>
</tr>
<tr>
<td>second</td>
<td>180 (180; 180)</td>
<td>131.5 (96.3; 137)</td>
</tr>
<tr>
<td>final</td>
<td>180 (175; 180)</td>
<td>135 (107; 142)</td>
</tr>
<tr>
<td>Internal rotation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first</td>
<td>17 (14; 21)</td>
<td>16 (14.3; 19)</td>
</tr>
<tr>
<td>second</td>
<td>90 (90; 90)</td>
<td>48 (46; 50)</td>
</tr>
<tr>
<td>final</td>
<td>90 (85; 90)</td>
<td>55 (51.3; 57.8)</td>
</tr>
<tr>
<td>External rotation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first</td>
<td>18 (16.3; 21)</td>
<td>18 (16.3; 20)</td>
</tr>
<tr>
<td>second</td>
<td>90 (90; 90)</td>
<td>48 (46.3; 50)</td>
</tr>
<tr>
<td>final</td>
<td>90 (85; 90)</td>
<td>54 (52; 56)</td>
</tr>
</tbody>
</table>

Note * — Mann-Whitney test
According to the results of the first assessment of pain in TPs, the groups had no significant difference in the indicators ($Z = –1.245; p=0.213$), with Me (25%; 75%) values being the same and comprising 9 (9; 9) points in both groups. The results of the second assessment were different in the groups and comprised 3 (3; 5) points in OG and 4 (4; 4) points in HG ($Z = –2.580; p=0.010$). Comparison of the final results also showed a significant difference between the groups: 1 (1; 2) points in OG and 3 (3; 4) points in HG ($Z = –7.794; p<0.001$). Therefore, the Friedman test revealed a significant improvement of pain indicators in both groups; pairwise comparison of OG results showed a difference between all the assessments ($p<0.001$); pairwise comparison of HG results showed a difference between the first and other assessments ($p<0.001$), as well as between the second and final assessments ($p=0.002$).

Comparison of the initial results of the groups in OSS items did not reveal any significant differences (table 2). Total OSS was 18.2±6.5 points in OG and 17.6±7.5 points in HG ($t = 0.366; p=0.715$). Me (25%; 75%) values were 17.5 (12.5; 23.8) and 18 (13; 23.5) points, respectively.

Comparison of the final results of the groups in OSS items revealed significant differences (table 3). Total OSS was 47 (47; 48) points in OG and 33 (31; 35.75) points in HG ($Z = 7.650; p<0.001$). $\bar{x}$±SD values were 46.5±2.6 and 32.8±4.4 points, respectively.

The final results of total OSS were better than the initial ones in OG ($t = –21.099; p<0.001$) and HG ($Z = –7.772; p<0.001$). Peculiarities of the changes in the distribution of the total OSS in the groups during the assessments are shown in figure 1.

### Results of comparing the initial scores of OSS items in the groups

<table>
<thead>
<tr>
<th>Items</th>
<th>Groups</th>
<th>Criterion*</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The worst pain from shoulder</td>
<td>OG HG</td>
<td>-0.423</td>
<td>0.672</td>
</tr>
<tr>
<td>2. Trouble dressing because of shoulder</td>
<td>1 (1; 2) 1 (1; 2)</td>
<td>-0.422</td>
<td>0.673</td>
</tr>
<tr>
<td>3. Trouble getting in and out of a car or using public transport because of shoulder</td>
<td>2 (2; 2.8) 2 (2; 3)</td>
<td>-1.546</td>
<td>0.122</td>
</tr>
<tr>
<td>4. Able to use a knife and fork</td>
<td>3 (2; 4) 3 (2; 3)</td>
<td>-0.127</td>
<td>0.899</td>
</tr>
<tr>
<td>5. Household shopping on your own</td>
<td>2 (2; 2) 2 (2; 3)</td>
<td>-0.132</td>
<td>0.895</td>
</tr>
<tr>
<td>6. Carrying a tray containing a plate of food across a room</td>
<td>2 (2; 3) 2 (2; 3)</td>
<td>-0.140</td>
<td>0.889</td>
</tr>
<tr>
<td>7. Brushing/combing hair with the affected arm</td>
<td>1 (0.3; 3) 1 (1; 2)</td>
<td>-0.732</td>
<td>0.464</td>
</tr>
<tr>
<td>8. The usually pain from the shoulder</td>
<td>1 (0; 1) 1 (0; 1)</td>
<td>-1.221</td>
<td>0.222</td>
</tr>
<tr>
<td>9. Hanging clothes up in a wardrobe, using the affected arm</td>
<td>1 (0; 2) 1 (0; 2)</td>
<td>-0.335</td>
<td>0.737</td>
</tr>
<tr>
<td>10. Washing and drying under both arms</td>
<td>1 (1; 2) 1 (1; 2)</td>
<td>-0.366</td>
<td>0.714</td>
</tr>
<tr>
<td>11. Limitations in the usual work (including housework) due to shoulder pain</td>
<td>1 (1; 2) 1 (1; 1)</td>
<td>-0.318</td>
<td>0.751</td>
</tr>
<tr>
<td>12. Pain from the shoulder in bed at night</td>
<td>0 (0; 1) 0 (0; 1)</td>
<td>-0.685</td>
<td>0.493</td>
</tr>
</tbody>
</table>

Note * – Mann-Whitney test

### Results of comparing the final scores of the OSS items in the groups

<table>
<thead>
<tr>
<th>Items</th>
<th>Groups</th>
<th>Criterion*</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The worst pain from shoulder</td>
<td>4 (4; 4) 2.5 (2; 3)</td>
<td>-6.716</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2. Trouble dressing because of shoulder</td>
<td>4 (4; 4) 3 (2; 3)</td>
<td>-5.281</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>3. Trouble getting in and out of a car or using public transport because of shoulder</td>
<td>4 (4; 4) 3 (3; 3)</td>
<td>-6.812</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>4. Able to use a knife and fork</td>
<td>4 (4; 4) 3 (3; 4)</td>
<td>-5.527</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>5. Household shopping on your own</td>
<td>4 (4; 4) 3 (3; 4)</td>
<td>-4.592</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>6. Carrying a tray containing a plate of food across a room</td>
<td>4 (4; 4) 3 (3; 3)</td>
<td>-5.166</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>7. Brushing/combing hair with the affected arm</td>
<td>4 (4; 4) 3 (3; 3)</td>
<td>-6.919</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>8. The usually pain from the shoulder</td>
<td>4 (4; 4) 2 (2; 3)</td>
<td>-6.370</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>9. Hanging clothes up in a wardrobe, using the affected arm</td>
<td>4 (4; 4) 3 (2; 2)</td>
<td>-7.080</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>10. Washing and drying under both arms</td>
<td>4 (4; 4) 3 (2; 3)</td>
<td>-6.514</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>11. Limitations in the usual work (including housework) due to shoulder pain</td>
<td>4 (4; 4) 2 (2; 3)</td>
<td>-7.193</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>12. Pain from the shoulder in bed at night</td>
<td>4 (3; 4) 2 (2; 2)</td>
<td>-6.541</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Note * – Mann-Whitney test
Patients of both groups demonstrated positive dynamics of the studied indicators. OG did not show any significant changes in the range of motion between the second and final assessments, unlike HG which showed significant changes between all the assessments. However, HG did not show any significant changes in terms of pain in TPs between the second and final assessments, unlike OG which showed significant changes between all the assessments. The superiority of OG in these parameters was observed starting from the second assessment. Comparison of the short-term results of the therapy according to OSS showed better indicators in the outpatient PT group.

It was not possible to find any studies on the comparison of short-term effectiveness of PT among patients with FS and concomitant thoracic MPS. Much more studies investigated this issue separately for each of the mentioned disorders of the locomotor system.

One of the studies investigated short-term effectiveness of using dry needling TPs of shoulder girdle muscles in patients with FS. All the participants received standard PT (electrotherapy and therapeutic exercises). The obtained results confirmed improvements of the range of motion, pain, pressure pain threshold, shoulder pain and disability index [15].

A systematic review and meta-analysis of the effectiveness of end-range interventions in FS revealed a positive effect of ERM techniques on pain indicators, mobility of the shoulder joint, and physical function in the short term and medium term [18]. At the same time, another systematic review noted that the effectiveness of manual therapy and therapeutic exercises was characterized by a statistically insignificant effect on pain, range of external rotation, short-term and long-term disability [17].

Besides, short-term effect of using yoga exercises in FS treatment was investigated by Jain et al. [23], who found that adding these exercises to standard care (nonsteroidal anti-inflammatory drugs and PT) did not improve pain, function, and disability outcomes. At the same time, statistically significant dynamics of these indicators were established in both groups [13]. According to one of the studies, short-term effect of the combined use of manual therapy and home-based stretching consisted in improving the level of pain, shoulder pain and disability index, mobility of the shoulder joint, and functional scale score [23].

Analysis of the short-term effectiveness of FS treatment revealed the superiority of corticosteroids in terms of pain and function indicators as compared to a number of other interventions (particularly, PT). At the same time, inclusion of home-based therapeutic exercises in corticosteroid treatment was proved to improve results in the medium term [8].

Ziaeiifar et al. confirmed positive effects of IC within 2 weeks and 3 months after the end of MPS therapy in trapezius muscle [39]. The improvements were registered in pain intensity indicators, Neck pain questionnaire, Disability of the arm, hand and shoulder questionnaire.

A recent systematic review confirmed that IC reduces shoulder and neck pain and discomfort in latent TPs. At the same time, it was noted that IC has better results as compared to post-isometric relaxation [3]. According to the conclusions of another systematic review, IC is recommended for immediate and short-term improvement of pain indicators, pressure pain threshold, and amplitude of motion [38].
The obtained results are consistent with the findings of the previous studies, which confirm the effectiveness of ERM and therapeutic exercises in FS therapy and the effectiveness of IC in MPS therapy. At the same time, the obtained results complement the existing data, regarding the comparison of the effectiveness of home-based and outpatient programs of PT among patients with FS and concomitant thoracic MPS.

**CONCLUSIONS**

Short-term results of the outpatient program in terms of pain indicators, mobility of the shoulder joint and functional limitations were better as compared to the home-based program of PT in patients with FS and concomitant thoracic MPS. Patients of both groups demonstrated positive dynamics of the studied indicators. Comparison of the short-term results of the therapy according to range of motion and pain showed better indicators in the OG. Comparison of the final results of the groups in Oxford Shoulder Score items revealed significant differences. Total score was 47 (47; 48) points in OG and 33 (31; 35.75) points in HG (p<0.001).

**Prospects for further research** lie in examining the long-term results of the outpatient program and the home-based program in terms of pain indicators, mobility of the shoulder joint and functional limitations.

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**COMPLIANCE WITH ETHICAL REQUIREMENTS**

Ethical consent was provided by the ethics committee of the local institution (protocol No. 2 dated March 30, 2023) and in accordance with the Helsinki declaration. Each patient was personally informed of their responsibilities and rights as well as the possibility to end the study at any time without any consequences and explaining the reasons for their actions.

**LITERATURE**


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ЛІТЕРАТУРНИЙ ОГЛЯД

Резюме

КОРОТКОСТРОКОВІ РЕЗУЛЬТАТИ ДОМАШНЬОЇ ТА АМБУЛАТОРНОЇ ПРОГРАМ ФІЗИЧНОЇ ТЕРАПІЇ ПРИ ЗАМОРОЖЕНОМУ ПЛЕЧІ ТА МІОФАСЦІАЛЬНОМУ БОЛЬОВОМУ СИНДРОМІ

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Мета: порівняти короткострокові результати домашньої та амбулаторної програм фізичної терапії у хворих на адгезивний капсуліт плечового суглобу із супутнім торакальним міофасціальним больовим синдромом.

Матеріали та методи. У дослідженні взяли участь 80 пацієнтів. Проводилася оцінка амплітуди руху у враженому суглобі. Числова шкала болю використовувалась для оцінки больових відчуттів при натисканні на тригерні точки. Функціональні обмеження у плечі вимірювалися за допомогою Оксфордської оцінки плеча (перед та через 1,5 місяці після закінчення фізичної терапії). Учасники були розділені на дві групи: домашня група (ДГ) та амбулаторна група (АГ). Усі пацієнти отримували консультацію фізичного терапевта. Пацієнти АГ отримували кінцевоамплітудну мобілізацію, котра проводилася фізичним терапевтом 5 разів на тиждень. Більшість пацієнтів отримала 15 процедур впродовж 3 тижнів. Учасники ДГ самостійно виконували терапевтичні вправи вдома (двічі на день, 3 тижні). Для терапії тригерних точок пацієнти ДГ та АГ самостійно виконували ішемічну компресію.

Результати. Серед пацієнтів обох груп спостерігалась позитивна динаміка досліджених показників. Порівняння віддалених результатів терапії за амплітудою руху та болем встановило кращі показники у АГ. Порівняння початкових результатів груп у пунктах Оксфордської оцінки плеча не виявило значними відмінностей. Загальний бал становив 18,2±6,5 балів у ДГ та 17,6±7,5 балів у АГ (p=0,715). Значення Me (25 %; 75 %) відповідно становили 17,5 (12,5; 23,8) та 18 (13; 23,5) балів. Порівняння заключних результатів груп у пунктах ООП виявило значимі відмінності. Загальний бал становив 47 (47; 48) балів у ДГ та 33 (31; 35,75) балів у АГ (p<0,001). Значення x ±SD відповідно становили 46,5±2,6 та 32,8±4,4 бали.

Висновки. Короткострокові результати амбулаторної програми були кращими за показниками болю, рухливості плечового суглоба та функціональними обмеженнями порівняно з домашньою програмою фізичної терапії у пацієнтів з адгезивним капсулітом плечового суглобу та супутнім торакальним міофасціальним больовим синдромом.

Ключові слова: реабілітація, опорно-руховий апарат, адгезивний капсуліт плечового суглобу, мануальна терапія, мобілізація, терапевтичні вправи, тригерна точка