



EFFECTIVENESS OF WHOLE BODY VIBRATION IN A PATIENT WITH FIBROMYALGIA-A CASE REPORT

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ABSTRACT A 22 years female patient with chronic fibromyalgia from the year 2011 came to National Institute for Locomotor Disabilities in Occupational therapy department for reducing pain and improving her endurance and functional status. Pretest using Fibromyalgia impact questionnaire, Brief pain inventory, Sleep scale from the medical outcomes study and Hospital anxiety and depression scale was conducted. A protocol of whole body vibration for fibromyalgia was given to the patient for 3 months, 5 days a week. Posttest was done using the outcome measures for 2 times one at 1.5 months and other at the end of 3 months. After post test at 3 months it was concluded that it reduced pain and also improved the endurance and functional status of the patient with fibromyalgia.

KEYWORDS :

INTRODUCTION

Fibromyalgia (FM) syndrome is a chronic rheumatic condition of unknown etiology characterized by widespread noninflammatory musculoskeletal pain with tenderness on palpation in a minimum of 11 of the 18 tender points for at least 3 months. Common medical disorders associated with fibromyalgia are chronic fatigue syndrome, irritable bowel syndrome, irritable bladder syndrome, or interstitial cystitis, temporomandibular disorder (Claw 2009) and impaired balance (Gusi et al. 2010), as well as obesity (Mengshoel and Haugen 2001) and migraine headaches.

Case presentation

The 22 years enthusiastic female patient with fibromyalgia came to Occupational therapy department with the complain of pain on upper trapezius muscle, medial border of scapula, paraspinal muscles in the lumbar region and radiating pain to the coccyx level on prolonged sitting.

History

The patient presented with neck pain on 2011, she was taken to the doctor and he told her having c5 and c6 nerve compression. On 2012 back pain started with neck pain and the pain gradually increased. She started physiotherapeutic intervention and there was improvement seen. On 2015 a rigid band at the neck level along with pain, tenderness of paraspinal area of thoracic and lumbar region. She was under medicine and physiotherapeutic intervention. On 2016 the pain of neck started radiating to fingers in a form of tingling sensation, she went to the doctor but no diagnosis was done. Later on 12.7.16 she was diagnosed having fibromyalgia. Since then she is continuing physiotherapeutic intervention.

Medical history

On 2006 hypothyroidism was diagnosed. 18.7.18- T3-1.33
T4-9.37
TSH-1.95

She was under medication Thyronorm 100mg
She was non Diabetic with normal uric acid serum, antistreptolysin-0ASO titre serum and RA serum.

She had increased C-reactive protein (CRP) serum-6.80
Xray of cervical spine done on 14.7.17 showed enlarged costal element, decreased C3 C4 space.

On 29th June 2016 she went to neuro psychiatrist for consultation and she was given Tab rexipra 5mg and tab schizomil H. She ate it for 1 month and left it.

The physiotherapeutic intervention included neck isometrics, neck stretching, Breathing exercise, relaxation technique, aerobic exercise, scapular stabilizing exercise, UST for 15 days, laser therapy, IFT, IRR, Tens and spine mobilization and back exercise.

On observing the back it was found that swelling was present on upper trapezius. No other detectable observation on the surface of body was

present.

EXAMINATION

The tender points included occiput, trapezius, supraspinatus, low cervical, second rib, lateral epicondyle, knee, gluteal, greater trochanter. Spasm was present on bilateral trapezius and at lumbar paraspinal area. The trigger points were left upper trapezius and medial border of scapula. Tightness of b/l upper trapezius, latissimus dorsi rhomboids, pectoralis and hip flexors.

The Range of motion of extremities are within normal limit with pain at the end range. The strength of upper extremity was 4/5 and the strength of lower extremity was also 4/5 other than hip flexors and extensors which was 5/5.

FUNCTIONAL LIMITATIONS

| SLNO. | FUNCTIONAL TASK | ENDURANCE |
|-------|---|---|
| 1 | SITTING TOLERANCE | 1 HR AFTER WHICH THE PAIN STARTS OCCURRING ON THE LUMBER AND COCCYX |
| 2 | STANDING TOLERANCE | 15MINS AFTER WHICH SHE STARTS SHIFTING |
| 3 | WALKING TOLERANCE | 15MINS WITH PAIN, TAKES REST IN BETWEEN |
| 4 | ROOM CLEANING | NEEDS FREQUENT REST AS PAIN AGGRAVATES ON DOING IT. |
| 5 | MAKING MEAL | AGGRAVATES PAIN |
| 6 | WASHING CLOTHES | AGGRAVATES PAIN |
| 7 | CONTINUOUS WORKING IN COLLEGE | AGGRAVATES PAIN |
| 8 | SUPINE TO PRONE, SIT TO STAND, SUPINE TO SIT, SIT TO WALK, SQUAT TO STAND | AGGRAVATES PAIN |
| 9 | CHANGE IN POSITION | AGGRAVATES PAIN |
| 10 | MAINTAINING THE POSITION | RELIEVES PAIN |

PAIN ASSESSMENT

VAS scale score during working time is 7
Working period is the most aggravating factor and prolonged lying position is the most relieving factor. Maintaining the same position can also sometimes aggravate the pain. There is burning sensation present while taking rest for longer period.

WBV protocol

Whole body vibration (WBV) is a mechanical stimulus characterized

by oscillatory motion that is delivered to the entire body (usually in a vertical manner). The patient will be standing vertical on the platform of WBV with hand supported on the bar in front. Then the patient will be instructed to do the following:-

- Static squat at 100 degree of knee flexion
- Dynamic squat between 90 degree and 130 degree of knee flexion
- Maintained ankle plantarflexion with legs in extension
- Flexo-extension of right leg between 100 degree and 130 degree of knee extension
- Squat at 100 degree of knee flexion
- Shifting the body weight from one leg to other

30 seconds each, 6 times each, 12 sessions

3 minutes recovery time

Activities 1, 2 & 3 will be done for 1st & 2nd sessions, 30 seconds each for 6 times

All activities will be done for the last 10 sessions.

The patient was given vibration for 6 sessions and then was without treatment for a week. This enabled us to judge the sustainable effect of WBV. During the phase when no treatment was given it was found that the pain in the coccyx region subsided but pain in other areas increased. Again we started WBV after one week and the patient started feeling better. At the end of the session the scoring revealed that the pain reduced, sleep improved and anxiety decreased.

OUTCOME MEASURES

The outcome measures used were fibromyalgia impact questionnaire (FIQ), Brief pain inventory (BPI), sleep scale from the medical outcome study and hospital anxiety and depression scale.

The pretest of FIQ was 85 and the post test was 54

The Pretest of sleep scale from the medical outcome study scored 48 and the posttest scored 56. The Pretest for hospital anxiety and depression scale was 22 and the post test scored 17.

The mean of BPI scored 9/10. After WBV the score got reduced to 7.

After 12 sessions of WBV it was seen that there was significant improvement in fibromyalgia impact questionnaire, sleep scale from the medical outcome study, brief pain inventory and hospital anxiety and depression scale.

CONCLUSION

Whole body vibration is effective in reducing pain, improving sleep and decreasing anxiety in patients with fibromyalgia.

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