



## EFFECT OF MYOFASCIAL RELEASE IN QUALITY OF LIFE ASSOCIATED WITH FIBROMYALGIA IN PREGNANT WOMAN: A CASE REPORT

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**ABSTRACT** Fibromyalgia is a rheumatological disorder characterized by chronic widespread body pain, stiffness, fatigue, disturbed sleep, tender points, and poor quality of life. High rates of anxiety, depression, maternal stress, fatigue, mood changes, cognitive impairments and fear of childbirth have been associated with fibromyalgia during pregnancy and thus affecting the quality of life at greater extent. This case study represents a 33 year old, 20 weeks of pregnant woman diagnosed with fibromyalgia with a positive genetic and family history had overall poor quality of life. The benefits of myofascial release technique on pain, anxiety, quality of sleep, depression and quality of life in patients with fibromyalgia were studied previously. Hence the aim of this study was to find out the effectiveness of myofascial release technique on pregnant woman with fibromyalgia. At the end of the 6 weeks of myofascial release there was significant improvement in ADL's. The stress factor, anxiety, fatigue, pain sensitivity to tender points was significantly reduced. Release of fascial restrictions improves physical function and overall quality of life.

**KEYWORDS :** Fibromyalgia, Myofascial release, pregnancy, tender points, fatigue, anxiety, quality of life

### INTRODUCTION

Fibromyalgia (FM) is a rheumatological disorder. It is characterized by chronic widespread body pain, stiffness, fatigue, disturbed sleep, tender points, and poor quality of life (QOL).<sup>[1]</sup> The other characteristic symptoms include chronic soft tissue neck and back muscle pain that is aching, throbbing or burning in nature usually accompanied by neck, shoulder, spine, shoulder or hip stiffness.<sup>[2]</sup> Fibromyalgia patients may also experience undue fatigue, insomnia, joint pain, headache, chest pain, jerky leg movements, numbness and tingling in various body parts. It affects women (3.4%) more frequently than men.<sup>[3]</sup> The proposed mechanisms for the etiology of FM include lack of physical fitness, sleep deprivation, chronic muscle spasm, genetic abnormalities, infectious agents, viral agents have been associated.<sup>[3,4]</sup>

There is little research into how pregnancy and fibromyalgia affect each other. Pain, fatigue and stress can be particularly bothersome for women with FM during the first and last trimesters of pregnancy. Low back pain and leg pain is more common symptom in FM during pregnancy.<sup>[5]</sup> Pregnancy related hormonal alterations might be one of the mechanism of FM.<sup>[6]</sup>

Numerous studies report on comorbidity of FM and psychosocial component. High rates of anxiety, depression, maternal stress, fatigue, mood changes, cognitive impairments and fear of childbirth have been associated with FM during pregnancy and thus affecting the quality of life at greater extent.

Myofascial release (MFR) is defined as the facilitation of mechanical, neural and psychophysiological adaptive potential interfaced via the myofascial system.<sup>[7]</sup> It is a massage technique in which the therapist uses gentle, sustained pressure on the areas to release adhesions and smooth out the fascia. It is a combination of manual traction and prolonged assisted stretching maneuvers designed to break up fascial adhesions. Fascial entrapment patterns causes body segment to stop receiving appropriate stimuli, establishing a pathological process with deficient circulation and limitation in nutrient supply to the fundamental substance of connective tissue, with its consequent densification. Due to hypomobility of the dense tissue it leads to movement limitation. Massage and releasing techniques may provide a healing on pain and disability.<sup>[7,8]</sup>

MFR reduces tension in the muscles and improves circulation, pain relief and increased mobility by inducing segmental and suprasegmental reflex. Stimulation of the mechanoreceptors by MFR may also close the "pain gate" via pre- and postsynaptic inhibition.<sup>[7,8,9]</sup> It was found that MFR was effective in reducing muscle pain in FM. The benefits of MFR therapy on pain, anxiety, quality of sleep, depression and quality of life in patients with FM were studied.<sup>[10]</sup> It demonstrated that MFR reduces the sensitivity to pain at tender points in patients with FM, improving their pain perception. Since MFR more directly targets the proposed peripheral pain generators residing in the

fascia, it was aimed to evaluate the benefits of MFR on pain and disease severity in pregnant woman in this case study.

### CASE REPORT

33 year old female with 20 weeks of pregnancy (5 months, G2P1L1) complains of low back and upper back pain since 3-4 years and has been aggravated since 2-3 weeks. The pain along with back region was present in bilateral hip and sacroiliac joints radiating to bilateral thighs laterally and in neck region. There was a difficulty in activities of daily living (ADL) especially the bed transfer activities, supine lying position and tremendous pain while getting up from the bed. There was a difficulty in walking and stair climbing due to pain.

The past medical history was significant. The symptoms had started 4-5 years back in the year of 2014-2015 after her first delivery. There was a sudden onset of pain when she experienced a jerk in her right scapular region. Gradually the pain appeared at the left hip joint radiating to left lower limb. Her MRI study revealed an inflammation of the left sacroiliac joint and the sciatica was causing radiating symptoms and pain. Following one year in 2015 she had started experiencing pain in her thoracic region which was on and off in nature. The pain eventually developed at mid thoracic level, bilateral shoulder, bilateral elbow and forearms, cervical region, frontal chest area and bilateral hip and thigh region forming the tender points in the myofascia. Gradually it was worsening with the time and there was a difficulty to maintain the prolonged lying, standing, sitting positions with difficulty in ADL's. She had visited a rheumatologist and her investigation of HLAB27 antigen was positive (Flow cytometry of HLAB27 dated on 28<sup>th</sup> august, 2017). There was a positive family history; 4 members in the family had spondylosis and one member was HLAB27 antigen positive. She had again undergone physiotherapy sessions comprising more of postural correction, scapular strengthening and core muscle strengthening exercises. Along with MFR for 2-3 months she had 20-25% relief in her symptoms in the year of 2017. Somehow she used to manage her activities and daily chores, but again her symptoms used to relapse. Eventually it used to affect her ADL's, sleep, mental status and overall quality of life. In the year of September 2019 she had an episode of viral fever which lasted upto 1 week and resulted into generalised weakness for following 15-20 days. The weakness flared the painful symptoms at left hip joint aggravating to right hip joint and bilateral SI joints. Morning stiffness at the low and upper back areas, fatigue and tender points in the bilateral gluteal region, bilateral thighs, neck region, frontal chest region, bilateral scapular, shoulder and elbow was at peak leading to discomfort and poor quality of life.

### METHODS

The pregnant woman visited the physiotherapy out-patient department (OPD) with the following chief complains of difficulty in bed transfer activities, difficulty in walking, difficulty in stair climbing, sleep disturbances and widespread pain in bilateral body segments. On detailed history and evaluation it was diagnosed to have fibromyalgia. According to 2010 Fibromyalgia Diagnostic Criteria her widespread

pain index (WPI) was scoring 12 out of 19 and symptom severity (SS) score was 6 out of 9.<sup>[11]</sup> The WPI was suggestive of number of areas of pain that patient had over the period of week. The SS score is the sum of the severity of the 3 symptoms; fatigue, waking unrefreshed and cognitive symptoms along with severity of somatic symptoms in general. The informed consent was taken prior to start with the therapy. The myofascial release technique was performed for 20 sessions for 6 weeks. The patient was given MFR for posterior cervical musculature, upper trapezius, cranial base release, release of pectoral region, lumbosacral decompression, release of gluteal fascia (Figure 1A and 1B), release of IT band (Figure 2), transversal sliding of forearm flexors and extensors and release of quadriceps fascia. The MFR was given with manual contact of hands and also with the tool named Sphyrna Lacrosse Therapeutic Massage Ball.<sup>[12]</sup> Its ergonomic contoured design is perfect for massaging muscles and targeted pressure on tender points to relax muscles and helps to ease away aches and pains. Along with MFR we have focused on relaxation technique and breathing exercises as an alternate treatment approach.

**Figure 1A: Myofascial release of gluteal fascia (with assisted tool)**



**Figure 1B: Myofascial release of gluteal fascia (with manual contact)**



**Figure 2: Myofascial release of Iliotibial band**



## DISCUSSION

After initial 5 sessions of MFR, patient had 50% relief. The MFR reduced her discomfort at greater extent and improved her walking. At the end of the 6 weeks of MFR technique there was significant improvement in her ADL's, it eased her to maintain the body postures while sleeping, reduced the discomfort while changing the body positions and had 80% improvement in walking. Her widespread pain index (WPI) score of post 6 weeks session was 6 out of 19 and symptom severity (SS) score was 3 out of 9. The stress factor, anxiety, fatigue, pain sensitivity to tender points was significantly reduced.

Pregnancy may be a vulnerable time period for females' psychosocial condition with depression, negative mood symptoms frequently reported. Anxiety, depression and stress in pregnancy are risk factors for adverse outcomes for mothers and children.<sup>[13,14]</sup> Release of fascial restrictions in patients reduces anxiety levels and improves sleep quality, physical function and physical role.<sup>[15]</sup>

There are few studies which evaluated the effects of symptoms of

fibromyalgia on physical function and quality of life in pregnant females. In this study it was found that pregnant females with FM have higher levels of physical impairments. Hence the study has used MFR technique for achieving reduction in various symptoms of pain, sleep disturbances, anxiety and improving the quality of life in pregnant woman.

## CONCLUSION

The present study concludes that myofascial release therapy is helpful in reducing symptoms of pain, sleep disturbances and anxiety in case of fibromyalgia in pregnant woman. Release of fascial restrictions improves physical function and overall quality of life.

## Conflict of interest

There are no conflicts of interest.

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