



Effect of Music Therapy on SI Joint Dysfunction: Case Report.

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ABSTRACT

Background: The Sacro Iliac Joint (SIJ) is a complicated joint that has been undervalued in terms of its role in lower back discomfort. Currently, the treatment of chronic Lower Back Pain (LBP) caused by SIJ is primarily conservative, with surgical indications. However, music therapy appears to impact mood and sentiments. When a patient is undergoing rehabilitation, this therapy is used. **Case presentation:** The 52-year-old female teacher was patient when she complained of Low Back Pain 5-6 months ago after lifting a heavy object. Her pain is described as a dull aching with periodic stabbing-shooting pain that radiates from her low back through her buttocks, groin, back of the leg, and feet. In this case, the right leg hurt more than the left. On the first day of pre-treatment, the VAS score for discomfort was 3/10 at rest and 9/10 at worst. In this case study, PT intervention was more conservative with music therapy to manage her pain. **Conclusion:** Music therapy is easily accessible, low-cost, and requires minimal training, and it may help patients with Sacro Iliac Joint dysfunction have a good result with conservative PT management.

Keywords: SIJ dysfunction, Music therapy, core stabilization exercises.

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Introduction-

LBP is one of the major medical conditions worldwide¹. LBP is a persistent illness that can negatively affect a person's everyday life, and leads to disability². Doctors have focused their attention on the SIJ, which is known as a common source of LBP. It is considered to be involved in 15% of all LBP cases³. 70%-80% of people today will experience Pelvic Girdle Pain [PGP] in their lives at some-point. SIJ have unique

anatomical traits that render them vulnerable to mechanical stress and make diagnosis difficult. Most patients who come to the clinic have LBP, and the majority of them are adults⁵. Sedentary and obese people are prone to develop SIJ dysfunction. It frequently results in aberrant mobility or misalignment of the SIJ⁶. The dysfunctions are well controlled by symptomatic therapy, along with Physiotherapy management. Music therapy is utilised



for a variety of conditions, which can be used for patients who are physically & intellectually disabled, unless, their hearing is compromised. Another modality for pain management can be music. Melzack and Wall's gate control theory [1965], explains the mechanism. They hypothesised that engaging non-pain pathways could change the transmission of noxious stimuli along the pain pathway. Thus, pain perception can be restructured by boosting non-pain sensory input, particularly in the auditory, visual, and tactile domains².

Case description-

The 52-year-old female teacher, was sent to the Musculoskeletal Department at MGM Physiotherapy in Aurangabad. She reported low back discomfort suddenly 5-6 months ago after lifting heavy object. The pain was predominantly present in the mornings, accompanied with stiffness and soreness that lasted for the majority of the day. Her discomfort is described as a dull persistent ache with intermittent stabbing-shooting pain radiating from the low back via buttocks, groin, back of the leg, and feet. The right leg hurt more than the left. She found temporary relief after taking the suggested prescription. The discomfort on the VAS (Visual Analog Scale) was 3/10 at rest and 9/10 at worst on the first day of pre-treatment. Her ADLs were severely impeded. She was insomniac due to excruciating discomfort which affected her job. Due to this, she was always stressed, nervous, and believed that the pain would worsen gradually, which would make her emotionally & physically weak.

Patient information-

Subjective examination-

At present she has severe LBP that transferred to back of her thigh via groin, which was similar to the pain she had. She had stopped her medication. She has hypertension for 12 years and has no surgical history. She has a gravida and parity of two. She denies having any childhood illnesses or psychological issues. Her bowel, bladder, and appetite are normal, and she reported no addictions. However, she is insomniac due to persistent pain. She works 6 hours a day (stands 4 hours a day) and has one weekly off.

Clinical examination-

On Objective examination-

The pain assessing the area for current is LBP radiates to back of thigh via groin and buttocks up to feet on right more than left. The pain level 9 on VAS scale. The pain is more in the morning with stiffness and soreness, on standing, climbing stairs & prolong sitting positions.

Physical examination-

She is endomorph, her BMI is 31.6, that indicates she is obese. Posture evaluation shows she stands straight, head in the midline & shoulders aligned. Lumbar Lordosis is slightly elevated. Piriformis, Glutes Maximus, Quadratus Lumborum, Iliopsoas, Hamstring, and Quadriceps Muscles are all right tight and reduced in strength in Table 1.1.

Manual muscle testing-

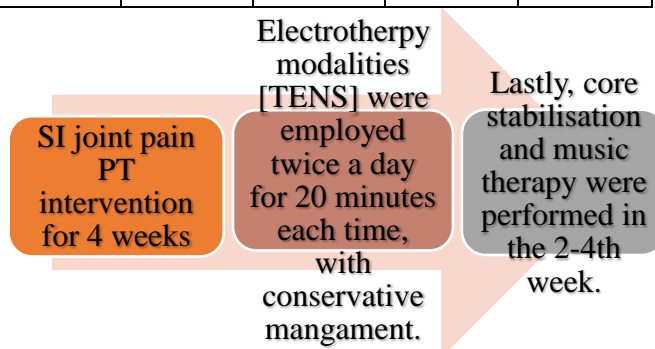
Table- 1.1 MMT

Diagnostic evaluation-

Subjective and Objective evaluation findings with the special tests (Gaenslen's Test, Gillet's Test, FABER) are positive. The patient has formed SI dysfunction.

Therapeutic intervention-

MMT	Right Leg		Left Leg	
	Pre	Post	Pre	Post
Hip Muscle	Grade 2	Grade 4	Grade 3	Grade 4
Abdominal Muscle	Grade 3	Grade 4	Grade 3	Grade 4
Back Extensor Muscle	Grade 2	Grade 3	Grade 2	Grade 3



The goals of the initial therapy in accordance with the increased focus on active rehabilitation strategies, for acute soft tissue injuries POLICE



treatment was applied i.e. [Protection, Optimal loading, Ice, Compression and Elevation] Utilizing mobilization, movement treatment, and music therapy, the conservative goal is to enhance mobility. TENS and icepack electrotherapy modalities, as well as mobility exercises, were used in the first week of treatment. For patients with SIJ pain, manual therapy is a key goal for effective treatment⁷. At two to four weeks, music therapy was used along with core stabilization. When treating sacroiliac pain, exercise is an important component of the treatment plan, and core stability has been shown to be effective. The goal of treatment planning is to re-establish a sense of control and become actively involved in the management of her pain, which begins with music therapy. Her pain relaxation music is used to relax, as well as to alleviate worry, fear, sadness, withdrawal tension, and other unpleasant aspects of the pain experience. Since the patient was resistant to and afraid of exercising in the first way, further options for reducing her kinesiophobia were considered. We were able to incorporate and co-ordinate her exercise to the rhythm of the music during PT intervention with core stabilization exercise to promote compliance and activity participation by playing her favorite music during PT intervention with core stabilization exercise. The use of commenced in the fourth week and was followed by exercise. The patient chose his or her second favorite songs to be played during therapeutic exercise to encourage repeated contractions of a specific activity. She also speaks loudly while listening to music, providing a stimulus for her to enhance her respiratory control.

Figure:1.2A summary of the importance to educating the patient about physical therapy intervention

Follow-up and outcomes –

Outcomes used was VAS, MODI, Tampa scale.

Table- 1.2 outcome measures pre 1st week and 4th week

Intervention adherence and tolerability-

The patient adhered to the treatment schedule extremely well. By focusing on physical treatment and exercises, the patient actively participated.

Adverse and unanticipated events-

There have been no negative and shocking events.

Strength associated with case report-

Throughout order to diminish local symptoms, the treatment strategy focused on pain, muscular activation, tightness, and music therapy in patients with SI pain. Music is used to relax, as well as to alleviate worry, fear, depression, withdrawal tension, and other unpleasant components of the pain experience. The relevance of this physical therapy technique for SIJ pain relief.

Weakness associated with case report-

Core stabilization exercise is something you have to know approximately.

Discussion-

This patient's diagnosis was SIJ dysfunction attributed to strenuous activity. And in a care context, the employment of a one-of-a-kind evaluation tool [TSK] and intervention component [music]. Despite the fact that the patient's performance was limited, she started gaining in strength and exercise tolerance. Developments in movement strategies, motor control are most easy to notice for these case report benefits. Physical intervention enhanced functional results, according to Anesse L et al 2019 they also highlight the use of non-traditional outcomes [TSK] and intervention strategies [music] in acute care settings⁸. The 2016 research by Jacqueline Redding et al, which supports the use of music therapy to improve patient comfort, is universally believed and used. Music therapy is easily accessible, low-risk, and low-cost, and with a greater understanding of evidence-based treatment, it may be able to lessen the need for moderate sedation while also improving the entire patient experience⁹. The music in this case report was chosen by the patient, which a recent qualitative study found to be significant for

Outcome measures	Pre 1 st week	Post 4 th week
VAS scale	7	3
MODI scale	27	10
TAMPA scale	35	20



gaining benefit. Patients' exercise experiences are also improved by music therapy. The use of music to stimulate and engage this patient throughout exercises and activities during the song for specific number repetitions was a unique PT intervention for this patient in this case study.

Similarly, in this patient used with core stabilization exercises increased contracted thickness. A motor relearning approach can reteach the skill of developing a correction action of the transverse abdominals and multifidus that activates local trunk muscles and improves muscle synchronization. Recently, Shideh Narouel 2020 compare the six key muscles before and after exercises concluded core stabilization exercises increased contracted thickness of transverse abdominals and Gluteus maximus muscles and decreased disability in NSCLBP¹⁰. Sultan A et al 2020 stated that lumbar stability exercises are useful for treating patients with chronic LBP in terms of disability, and that lumbar stabilization exercises can help patients with chronic LBP improve their impairment¹¹.

Scientific Rational-

Music therapy and core stability exercises are used as part of PT treatment for patients with SI pain. The purpose of music therapy is to help the patient regain control of her discomfort and become more engaged in managing it through core stabilization exercises. It improves in the relief of anxiety, fear, despair, tension, and other



pain-related symptoms. Music therapy assistance examines the patient's moods, requirements, and talents, and then collaborates with the patient to create effective and pleasant music therapy approaches. Overall, the goal of music therapy is to assist the patient combine previous experiences and current skills into a musical experience with exercise.

Patient perspective-

The patient's perspective was that she was so stressed out by pain that she complained with an VAS score of 7/10 on day one, but that her pain had dropped to 3/10 on the VAS scale at the end of the fourth week, and that her anxiety, depression, and stress connected to pain had improved. Pain was reduced with the help music therapy, exercise.

Informed consent-

Yes, patient's informed consent was taken.

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