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A COMPARATIVE STUDY BETWEEN ARTIFICIAL INTELLIGENCE-BASED EXTRACORPOREAL SHOCKWAVE THERAPY (ESWT) DOSAGE AND PHYSIOTHERAPIST-PLANNED ESWT DOSAGE ON REDUCING PAIN IN PATIENTS WITH LOW BACK PAIN- A QUICK REVIEW.

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Background: Low back pain is a prevalent condition that significantly affects quality of life and functional ability. Extracorporeal shockwave therapy (ESWT) is increasingly used as a non-invasive treatment option. However, determining the optimal dosage for effective pain relief remains challenging. This study explores the potential of artificial intelligence (AI) to enhance the planning of ESWT dosage compared to traditional physiotherapist-driven approaches.

Objectives: The primary objective is to assess the effectiveness of AI in planning ESWT dosages for patients with low back pain. The secondary objective is to investigate the applicability of AI in planning dosages for other electro-modalities in the management of musculoskeletal conditions.

Methods: This study reviews literature on AI-based physiotherapeutic interventions for musculoskeletal conditions. A total of 52 participants of both genders, with low back pain and no contraindications for ESWT, were recruited and divided into two groups. The control group received ESWT dosages planned by physiotherapists, while the intervention group received AI-generated dosages, specifically developed using ChatGPT based on relevant clinical information. Pain levels were measured using the Numerical Pain Rating Scale (NPRS) and the Visual Analog Scale (VAS) before the first session and after the final treatment. Within-group and between-group differences in pain reduction were analyzed.

Results: The literature indicates promising outcomes for AI-planned therapies in various musculoskeletal conditions.

Conclusions: The use of AI in planning ESWT has the potential to yield more effective and personalized rehabilitation plans, enhancing treatment outcomes for patients with low back pain.

Implications: This research highlights the potential of AI in accurately planning electro-modalities protocols, which may reduce the time required for clinicians to design treatment plans and improve overall treatment accuracy.

Keywords: Artificial Intelligence, ESWT, shockwave therapy, physiotherapy, musculoskeletal conditions.