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Review Article

Feldenkrais method and movement education – An alternate therapy in musculoskeletal rehabilitation



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ABSTRACT

Introduction: Feldenkrais method (FM) is a movement education technique that emphasizes movement teaching based on sensory motor awareness and cognitive perception of the movement. Although this technique gained popularity in different parts of the world, it is still regarded as a non-conventional science.

Aim: Absence of in-depth review and high quality scientific studies in this technique necessitates the need for generation of knowledge and scientific review on this efficient method.

Discussion: This current review paper made an effort to provide conventional scientific explanation about this method that suits the medical paradigm. In this paper, a brief introduction followed by description of the technique is given with a clinical example toward its application. Furthermore, the neurophysiologic explanation and mechanical concepts are provided in the conventional scientific manner. Indications, contra indications and clinical implications were also discussed to accommodate the clinical practice in musculoskeletal rehabilitation.

Conclusions: Feldenkrais exercises can be used as an alternative therapy in musculoskeletal rehabilitation for movement education.

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1. Introduction

Feldenkrais technique is an art of movement that emphasizes control and coordination of movement and function through reeducation of sensory motor system.¹ It is an educational

system for movements guided by proprioception, sensation, control and coordination of movement.¹ The principle behind the technique is to perform movement with minimal effort and maximum efficiency. Movements performed using this technique are referred to Feldenkrais method (FM). Moshe Feldenkrais, a Israeli physicist, dedicated to the observation of

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movements in the perspective of biomechanics and neurophysiology developed FM.² Through his knowledge in physics and as a judo martial artist, he hypothesized the mechanics of movement in environments similar to the principle of systems theory and the neurophysiological adaptation similar to the concept of cybernetics. Feldenkrais regarded cybernetics as a control theory that has automatic control and communication system between the nervous system, brain and musculoskeletal system toward execution of movements. He viewed that the human motor pattern is self-organized and guided as per the dynamical system determined by cognitive, psychological and physical state of an individual in the environment.³ Therefore, FM reminds the body and mind about the body parts that are not integrated or dysfunctional during their functional movements or habitual actions. Thus, in FM, individuals are made to explore their own body parts, its control and coordination through guided and structured movements. Through FM, individuals become aware of the finer differences in the movement patterns through explorative learning of their movements through sensory motor system.

In the FM, the instructor who teaches the technique is referred to as a practitioner or a teacher. The individual who will learn the technique is referred to as client or student. As it is an art or an educational system to learn mastery of movements, it carefully avoided the usage of the terms clinicians and patients. The aim of the technique is to provide an individualized feeling and experience of movements. In this process, the client or student will be allowed to explore the movement patterns through finer movements, smaller movements, movement variations and sequences, breathing variations, body contact, movement effort, etc. and how these affect their own movement performance. Thus, the student gains supremacy in regulating and correcting their own wrong movement patterns as an explorative learning process. Hence, the role of a teacher in FM is to create an atmosphere for the student to learn to move through less resistance and more efficiency. In other words, one would say that FM is an art rather than a treatment technique. It is for the same fact that FM is seen as a non-conventional science as a conventional scientific epistemology weakly exists.⁴ However, with more research emerging that is exploring the benefits of FM, there appears to be a surge of interest among the medical community for this artistic movement technique.

2. Aim

The main aim of this review is to highlight a scientific paradigm for FM, present the details of techniques, and explore neurophysiologic principles, mechanism of action and its application to the field of rehabilitation.

3. Discussion

3.1. Feldenkrais technique

The conception of practice in FM is to enhance the attention and awareness of individuals about their movements.⁵ In

order to achieve this, two basic techniques of movement sessions were usually performed in FM. Feldenkrais coined the term for the first technique as “awareness through movements” (ATM) and the second technique as “functional integration” (FI).¹ Both of these two techniques were usually taught in supine lying initially to eliminate gravity and for better proprioceptive awareness for the students. Subsequently, the movements are performed either in sitting or standing and progressed to functional movements once the student masters the self-exploration of the movement. Each movement class lessons would take about 30–45 min generally. Fundamentally, the student would perform a basic movement and self-explore to learn changes and variations in the movements with relation to the other side, other body parts and to that of the environment. Feldenkrais believed that this way of movement learning might eliminate extra unnecessary effort and ineffectual movement patterns.²

The ATM technique comprised a series of structured movement lessons. The movement class was usually performed in larger groups of clients. In the beginning of the classes, the students or clients would do small, gentle, simple movements based on developmental motor patterns.⁶ In later sessions, these developmental movements would be integrated to movements resembling everyday functional activities.⁶ In fact, during all the movement lessons the students would be prompted and made to self-explore the joint, muscle and postural relationships to gravity and environment.⁶ In order to achieve this, the Feldenkrais instructor or practitioner would lead the students using verbal instructions to a series of movement sequences intended to improve body awareness and organization of movements.^{7,8} All the students would perform the movements as per the instructions of the practitioner. The students would be required to do the movements at their own pace and own style. Furthermore, they would be instructed to do the movements as much as it is comfortable, easy and smooth for them. On many occasions, the students were called upon to witness the movement patterns among themselves. During such a session, either the students or the instructor did not give any specific comments to the individual who was performing the movement. Neither would they attempt to correct any wrong movements nor would they demonstrate a right movement to the individual.

Hence, one should not anticipate any active feedback from the practitioner toward correcting movements during a Feldenkrais movement class. In reality, this lack of extrinsic feedback was mentioned as an intentional strategy in the FM to stimulate exploratory learning.⁷ Nevertheless, the practitioner would ask a series of meaningful questions to the students during the movement classes to facilitate movement perception and kinesthetic awareness ([Appendix 1](#)). The purpose of these questions were to arouse the thought process among the students on proprioceptive alertness, temporal-spatial consciousness of body-movement, sensory motor awakening and mind-body-movement relationship.⁷ It was suggested that this cognitive approach facilitates strategies for movement organization and learning.^{7,8} Thus, the students would be prompted to discover and learn the best movement pattern which they felt had yielded them a smooth and easy movement. In FM, this cognitive process of stimulation was

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