

Short Review

## Feldenkrais method: utilisation and evidence base

Sadia Zahid, Younas Khan

### Abstract

Feldenkrais exercises have been widely used to improve posture and balance in a range of different populations, starting in the middle of the previous century. Devised by Moshe Feldenkrais, a Ukrainian and later Israeli physicist, the aim of the exercises was to enhance body postures and balance using feasible physical manoeuvring, individually tailored to the person. The technique has helped people with a range of physical and psychological disabilities resulting from restricted and habitual movement patterns and could be assessed using a number of neurological, psychological and physiotherapy outcome measures. Although the technique has been evaluated through a number of randomised controlled trials, there appears to be a dearth of ongoing clinical use and research for its incorporation in the latest health sciences, especially for the elderly.

### Key words

Aged, Balance, Complementary Therapies, Exercise, Feldenkrais Method, Posture

### Introduction

Feldenkrais Method (FM) is a method devised by Moshe Feldenkrais, a Ukrainian engineer, physicist and a Judo teacher through a series of experiments in the mid-20<sup>th</sup> century. The aim of the method was to improve body-mind awareness through a set of psychosomatic exercises. The method suggests that the human body learns “how to learn”.<sup>1</sup> This is innate and natural to all human beings evolving from our closest species, apes, according to the Darwinian theories. Feldenkrais suggested that though apes and humans share a similar physical structure and some gross movements, the finer movements are as a result of practice through perfection and the development of the brain as a young human child grows up. This not only includes fine hand movements but movements in all other parts of the body. Therefore movement difficulty can point to an insult or damage to that part of the nervous system where the movement originates from and vice versa.<sup>2</sup> Feldenkrais exercises involve awareness of body movements and incorporating them into physical practice to improve the relationship between body and mind in a way to “unlearn” the negative stimuli by retraining the part of the brain above the limbic system, the intelligent

brain, through a series of body movements and postural control methods.

In the above background the aim of this short review is to explore this unique, relatively old school but widely-used technique and its evidence base.

### FM as a complementary and alternative therapy

Therapies such as FM come under the umbrella term of “complementary and alternative therapies” signifying a therapy that is not used in the mainstream practice apart from a few recognised situations. National Institute of Care and Excellence UK (NICE) guidelines do not specifically mention FM, as it is not in the current medical practice and suggests referring to the National Health Service (NHS) for guidance with complementary and alternative therapies.<sup>3</sup>

### FM methods

Moshe Feldenkrais developed Feldenkrais exercises after he himself sustained a sports injury that rendered him unable to carry on with his routine. The knee injury that he got warranted a major surgery that could have left Feldenkrais permanently disabled. So, he came up with a solution whereby he devised a set of exercises that required minimal stretch and strain of the muscles of the body, depending on the brain’s neuroplasticity, to improve the body’s skeletal and neuromuscular organisation. Feldenkrais was able to work with artists, musicians and patients with chronic neurological conditions, using fundamentals of human biology and the laws of physics to develop these psychosomatic exercises.<sup>4</sup>

Essentially there are two manners in which Feldenkrais is delivered. Through group therapy in which perception through movement is given via a therapist guiding the groups; and individualised “functional integration” which is enhancing the amalgamation of body sensations and discernment of movement on an individual basis. In simple words, it means to learn posture and balance-enhancing movements that are most feasible and easier to do and are individually tailored to meet the physical endurance criteria for that person. This involves integrating the muscle groups in a harmonious way to bring on the effects of less fatigue and more muscle strength, as well as relief of stiffness and pain.<sup>5</sup>

The classic Feldenkrais exercises as suggested by Feldenkrais Guild UK include movements in small steps and involve exercises like shoulder/neck, lower limbs and back exercises involving the major skeletal muscles.<sup>5</sup> The exercise is done in small steps with the therapist ensuring the person smoothly overcomes resistance in muscle groups with an improved calibre of movement achieved in the end.

## Outcomes

The effects of improvement of FM can be assessed through different methods including cognitive tests like trail making test and other non-cognitive tests like certain equilibrium and stability measuring tests (e.g. stabilometric analysis: study of rhythmic movements of body or body sway during quiet standing, which is used to assess balance in certain mobility and balance disorders e.g. Parkinsonism).<sup>6</sup> FM has shown some encouraging evidence in improving cognitive decline, chronic pain, balance, function hence useful in conditions like Parkinson's, multiple sclerosis, early other movement disorders like dystonia, dementia and depression.<sup>7,8</sup> Other studies have reported that FM technique is beneficial in improving pain perception, muscle power or strength, and the resultant improvement in psychological consequences of these.<sup>7</sup> A survey carried out by the German dystonia society on patients with dystonia using alternative therapy techniques like acupuncture, FM, homeopathy, massages, relaxation and breathing therapy and injection of Botulinum toxin suggested FM amongst the effective techniques.<sup>9</sup>

## Relevance in old age

In the elderly population, reduced physical mobility is a harbinger of increasing demand on the health and social services for access to enhanced support. Years of activity with erroneous postures and unhelpful exercises can lead to perpetual changes in the posture in turn causing chronic pain, reduced or limited mobility and falls. These consequences may improve with the appropriate exercises that increase the movement awareness of the aged population and their functional input.<sup>10</sup>

The FM has widespread uses. There have been reports of FM improving subclinical depression in older adults, with statistical improvement in CES-D (Centre for Epidemiological studies- Depression scale) score with medium effect size.<sup>11</sup> This was a pilot study which looked at a 5-week programme of Feldenkrais exercises studying their impact on CES-D, perceived stress score (PSS-10) and Health related Quality of Life (HRQoL) in independently living older adults. The interventional group were compared with a control waitlist group; whereby the FM group showed significant improvement of CES-D in the group vs time interaction. For the other two parameters (HRQoL and PSS-10) no significant group – time relationship was noted. However, the authors suggested that longer period of intervention for a few months may bring on the positive effect for HRQoL and PSS-10.

A recent systematic review of the randomised controlled trials (RCT) done using FM technique has reported it being helpful in improving some of the physiotherapeutic clinical outcome measures like timed up and go test and functional reach tests. This has shown improved confidence in the elderly population thereby promoting their independence, and having fewer constraints on social resources when assessed on AQoL (assessment of quality of life).<sup>7</sup> The systematic review included 20 RCTs which aimed to streamline the evidence about FM and its use in the relevant population. The results as mentioned above showed a positive impact of FM with improvement in parameters for balance and mobility. However these RCTs may have been conducted with a likelihood of bias and/or poor reporting of methods due to fewer ethical restrictions at the time.

A study that qualitatively analysed the effects of FM and other exercise programmes like dance therapy, Tai-chi and yoga in dementia patients suggested that FM along with the exercises mentioned above helped the elderly with Alzheimer's achieve a better quality of life by increasing their independence and their social interactions.<sup>12</sup> This study analysed the effects of these exercises on the elderly using phone communication, exercise instructors' written notes and home visits, and showed a positive impact on social, functional and emotional life of the clients who participated.

## Conclusion

FM is an awareness of one's movements through a relationship with their perception, feeling and learning. The proponents of this technique claim that it permanently improves body posture, balance and movement restrictions as well as improving performance in different activities like sports, dance, singing. They also suggest that FM exercises are especially useful for the elderly. There are few studies conducted in the recent past evaluating the effectiveness of this technique; however there is need for further research of this exercise method regarding its usefulness in the elderly population.

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