



Effect Of Feldenkrais Method And Conventional Exercise Protocol On Neck Pain And Low Back Pain In Corporate Employees Working From Home : A Comparative Study

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ABSTRACT

BACKGROUND- As current shift from working in the office setup to work from home setup , many of the people especially corporate employees are forced to work in a less than ideal ergonomic environment. Although, there is significant evidence of developing Orthopaedic disorders such as neck pain and back pain in them due to prolonged sitting and body posture at their workplace, there are more possibilities to develop the neck pain and low back pain in them while doing their office work even at home. There is lack of research on this topic, indeed this made us to study the effect of comparison of Feldenkrais Method and Conventional Exercise Protocol on neck pain and low back pain in corporate employees working from home in COVID-19.

AIMS AND OBJECTIVES- To study and find out the effect of comparison of FM and Conventional Exercise Protocol on neck pain and back pain in corporate employees working from home in COVID-19.To determine the effect of FM on neck pain and low back pain in corporate employees in COVID-19 phase. To determine the effect of Conventional Exercise Protocol on neck pain and low back pain in corporate employees in COVID-19 phase. To compare the effect of FM and Conventional Exercise Protocol on neck pain and low back pain in corporate employees in COVID-19 phase.

METHODOLOGY- In this comparative study, 42 corporate employees working from home in age group 25 to 55 years were included. Neck pain and low back pain was assessed through Northwich Park Neck Pain Questionnaire and Oswestry Low Back Pain Disability Index before and after the exercise session, respectively. The participants were divided into two groups of 21 each: Group A as a control group and Group B as an experimental group. Group A was instructed to follow only the Conventional Exercise Protocol. Group B was instructed to follow the FM along with Conventional Exercise Protocol. Later data was collected and analysis was done.

RESULTS- Neck pain and low back pain was significantly reduced in the post exercise session in group B as compared to group A. Statistical analysis was done using unpaired t- test. Statistical significance: p value differed from pre- data to post- data.

CONCLUSION- A significant reduction was found in neck pain and low back pain with FM along with Conventional Exercise Protocol in corporate employees working from home in COVID-19.

KEYWORDS:- Neck pain, Low back pain, Corporate Employees, Feldenkrais Method, Conventional Exercise Protocol.

INTRODUCTION

Feldenkrais method, often known as 'Feldenkrais,' is a form of movement that is learned through a self-realization approach with least effort and maximum efficiency^{1, 2}. As a result, this teaching style and its learning process are referred to as pedagogical methods³. Dr. Moshe Feldenkrais developed this technique. Through observation of how youngsters learn to walk, he basically used self-realization technique for his own injuries². As a result, this teaching style can be said to be based on developmental movements¹. This method also incorporates functional tasks as well as abstract investigation of joint, muscle, and postural linkages¹.

The FM was created to help those with restricted or reduced range of motion as a result of injury, chronic pain, or other physical or neurological issues⁴. One of the major tenets of FM is to increase people's proprioceptive and kinaesthetic awareness through a teacher-led session, allowing them to inspect a proper method of moving the body or correcting incorrect habitual posture². The FM has two modalities of instruction, the first of which is called Awareness Through Movement (ATM) classes and the second of which is called Functional Integration (FI) classes^{1, 2, 5}. Each session of self-awareness is referred to as a lesson, and they can last anything from a few minutes to many hours^{1, 2}.

Participants report increased flexibility and coordination, as well as a reduction in discomfort and muscle tension, after participating in these sessions.⁶ These modifications frequently have a positive impact on other aspects of a person's life.⁴ The following are some of the FM's other advantages:

- Better health and happiness
- Improved focus and attentiveness
- Minimise the amount of work required to complete jobs

- Posture, mobility, cooperation, and balance are all enhanced.
- Making Breathing easy
- Improved muscle tension management

Neck discomfort and low back pain are the most frequent musculoskeletal illnesses and the primary causes of disability worldwide in this area⁷. Neck pain and low back pain have been proven to be risk factors not only for severe spine disorders and functional disability, but also for lower worker quality of life and productivity⁸. Neck and low back discomfort are caused by a variety of reasons, including muscular, skeletal, and nervous system-related issues⁹. Neck pain and low back pain have been found to be common among sedentary or office employees.¹⁰ This is related to their prolonged sitting duration, certain body postures such as improper neck and low back flexion or rotation, as well as other workplace environmental conditions¹¹.

As a result, effective management options for musculoskeletal problems in a diverse population are critical. Although there are a range of treatment options for musculoskeletal illnesses, none of them are superior to the others, with the exception of exercise therapy for neck and back pain reduction¹².

Exercise therapy is a uniform element in the management of various musculoskeletal disorders including neck pain and low back pain.¹³ It involves the prescription of muscular contraction and bodily movement which ultimately leads to the improvement of the overall function of the individual and helps to meet the demands of daily living.¹⁴ As a result, achieving meaningful management effects with a single medication might be difficult. In this regard, FM classes, which are gaining popularity, are advised as an alternative to exercise therapy for improving movement patterns in musculoskeletal rehabilitation.¹⁵ As a result, the current study aims to examine the research in the field of neck and low back

pain, as well as the efficiency of the Feldenkrais Method in combination with conventional exercise.

MATERIAL AND METHODOLGY

The goal of this study was to compare the effects of the Feldenkrais Method and the Conventional Exercise Protocol on neck discomfort and low back pain in COVID-19 business employees who worked from home. The research was conducted utilising a randomised sample technique with a lottery system, with 42 company workers participating. The study's goal was conveyed to participants via an online session, and consent was obtained using an online form. The survey included 42 business workers. Participants who were willing to participate and were between the ages of 25 and 55 did not have any musculoskeletal problems met the inclusion criteria. The exclusion criterias were the participants those who were not willing to participate, those having any musculoskeletal injuries especially cervical and lumbar injuries and those having BMI with Grade 1 obesity. Northwick Park Neck Pain questionnaire and Oswestry Low Back Pain Disability Index were the major outcome measure to evaluate neck pain and low back pain in corporate employees respectively. Demographic information, neck pain and low back pain scores were measured as pre-test data (i.e. before the exercise session) and as post-test data (i.e. after the exercise session). The participants were divided into two groups of 21 each: Group A as a control group and Group B

as an experimental. Group A was instructed to follow only the Conventional Exercise Protocol. For example: (Neck Pain- Hot Moist Pack for 15 mins, Static Exercises, Chin tucking, Stretching exercises. Low Back Pain- Hot Moist Pack for 15 mins, Static Back and Static Hamstring Exercises, Pelvic tilting, Pelvic Bridging, Curl-up exercises, Stretching Exercises, etc) Group B was instructed to follow the FM along with Conventional Exercise Protocol. Both groups were instructed to follow the exercise session for 6 days per week as 4 weeks protocol. Finally the results were the key outcome to determine the comparison of the effect of in the subjects. Then, statistical analysis and interpretation was done for each candidate.

Statistical analysis of the recorded data was done by using the software INSTAT App. Unpaired t test was used to determine p value which differed from pre- data to post- data.

RESULTS

Table No 1: GENDER

GENDER	TOTAL
MALE	17
FEMALE	25

INTERFERENCE :

In this present study, out of 42 corporate employees, 17 were male whereas 25 were females respectively.

Table No 2: FOR TEST RESULTS

TESTS	MEAN	STANDARD DEVIATION	t VALUE	p VALUE	INTERFERENCE
AGE	34.2	9.21	24.07	< 0.0001	Extremely Significant
BMI	24.01	2.75	56.43	< 0.0001	Extremely Significant
TOTAL NO. OF WORKING HOURS	8.83	2.97	19.21	< 0.0001	Extremely Significant
JOB SENIORITY	11.54	6.8	10.94	< 0.0001	ExtremelySignificant

Statistical analysis was done by using unpaired t-Test.

Participants mean age, BMI, total no. of working hours and job seniority were 34.2 years, 24.01 kg/m², 8.83 hours and 11.54 years respectively. Statistical significance was set at P < 0.0001. After analyzing and comparing the data, significant effect was found in neck pain and low back pain by FM along with

Conventional Exercise Protocol in corporate employees working from home in COVID-19. The participants in both the groups were instructed to follow the exercise session for 6 days per week as a 4 weeks protocol. Neck pain and Low back pain scores were measured as pre-test data and also as post-test data. The

results which showed significant change in both the groups A and B are as follows: (Table 3, 4, 5, 6)

Table No 3: COMPARISON OF THE RESULTS OF NECK PAIN IN GROUP A

SR. NO	QUESTIONS	MEAN + SD		t VALUE		p VALUE		INTERFERENCE	
		Pre- Data	Post- Data	Pre- Data	Post- Data	Pre- Data	Post- Data	Pre- Data	Post- Data
1	Pain Intensity	3.23 + 0.88	2.23 + 0.88	16.69	11.53	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
2	Pain and Sleeping	2.76 + 0.88	1.80 + 0.87	14.23	9.5	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
3	Pins, Needles or Numbness in arms at night	2.47 + 0.87	1.42 + 0.92	13	7.07	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
4	Duration Of Symptoms	3.28 + 0.90	2.23 + 0.70	16.68	14.64	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
5	Carrying	2.80 + 0.87	1.76 + 0.83	14.75	9.71	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
6	Reading and Watching TV	2.76 + 0.88	1.80 + 0.74	14.23	11.06	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
7	Working/ Housework, etc	3.09 + 1.13	2.04 + 1.11	12.48	8.4	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
8	Social Activities	2.47 + 0.60	1.28 + 0.64	18.86	9.15	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
9	Driving	3.09 + 0.88	2.09 + 0.76	15.95	12.49	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant

Table No 4: COMPARISON OF THE RESULTS OF LOW BACK PAIN IN GROUP A

SR. NO	QUESTIONS	MEAN + SD		t VALUE		p VALUE		INTERFERENCE	
		Pre- Data	Post- Data	Pre- Data	Post- Data	Pre- Data	Post- Data	Pre- Data	Post- Data
1	Pain Intensity	3.95 + 1.07	2.76 + 0.99	16.9	12.71	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
2	Personal Care (washing, dressing, etc)	3.23 + 1.04	2.23 + 0.83	14.21	12.34	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
3	Lifting	3.52 + 0.92	2.66 + 0.79	17.39	15.35	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
4	Walking	3.19 + 1.07	2.23 + 0.94	13.56	10.86	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
5	Sitting	3.47 + 1.07	2.47 + 0.98	14.77	11.57	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
6	Standing	3.66 + 0.96	2.76 + 0.83	17.39	15.23	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
7	Sleeping	3.28 + 1.27	2.09 + 0.99	11.85	9.64	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
8	Sex Life	2.90 + 0.76	1.90 + 0.76	17.32	11.35	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
9	Social Life	2.95 + 1.02	1.85 + 0.91	13.21	9.35	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant
10	Travelling	3.61 + 0.97	2.52 + 0.87	17.03	13.25	< 0.0001	< 0.0001	Extremely Significant	Extremely Significant

Table No 5: COMPARISON OF THE RESULTS OF NECK PAIN IN GROUP B

SR.No	QUESTIONS	MEAN + SD		t VALUE		p VALUE		INTERFERENCE	
		Pre- Data	Post- Data	Pre- Data	Post- Data	Pre- Data	Post- Data	Pre- Data	Post- Data
1	Pain Intensity	3.14 + 0.65	0.28 + 0.46	22	2.28	<0.0001	0.0104	Extremely Significant	Significant
2	Pain and Sleeping	3.09 + 0.94	0.33+ 0.48	15.03	3.16	< 0.0001	0.0049	Extremely Significant	Very Significant
3	Pins, Needles or Numbness in arms at night	2.71 + 0.78	0.23 + 0.43	15.87	2.5	< 0.0001	0.0212	Extremely Significant	Significant

4	Duration Of Symptoms	2.80 + 1.03	0.28 + 0.46	12.49	2.28	< 0.0001	0.0104	Extremely Significant	Significant
5	Carrying	2.80 + 0.98	0.19 + 0.40	13.12	2.16	< 0.0001	0.0423	Extremely Significant	Significant
6	Reading and Watching TV	2.66 + 0.79	0.14 + 0.35	15.35	1.82	< 0.0001	0.0829	Extremely Significant	Not Quite Significant
7	Working/ Housework, etc	2.23 + 1.13	0.09 + 0.30	9.02	1.45	< 0.0001	0.16	Extremely Significant	Not Significant
8	Social Activities	2.66 + 0.91	0.19 + 0.40	13.28	2.16	< 0.0001	0.0423	Extremely Significant	Significant
9	Driving	3.09 + 0.94	0.33 + 0.48	15.03	3.16	< 0.0001	0.0049	Extremely Significant	Very Significant

Table No 6: COMPARISON OF THE RESULTS OF LOW BACK PAIN IN GROUP B

SR. NO	QUESTIONS	MEAN + SD		t VALUE		p VALUE		INTERFERENCE	
		Pre-Data	Post-Data	Pre-Data	Post-Data	Pre-Data	Post-Data	Pre- Data	Post- Data
1	Pain Intensity	4 + 0.89	0.28 + 0.46	20.49	2.82	< 0.0001	0.0104	Extremely Significant	Significant
2	Personal Care (washing, dressing, etc)	3.47 + 1.07	0.38 + 0.58	14.77	2.96	< 0.0001	0.0077	Extremely Significant	Very Significant
3	Lifting	3.71 + 0.84	0.28 + 0.46	20.14	2.82	< 0.0001	0.0104	Extremely Significant	Significant
4	Walking	5.52 + 1.03	0.28 + 0.46	15.67	2.82	< 0.0001	0.0104	Extremely Significant	Significant
5	Sitting	3.76 + 0.83	0.38 + 0.49	20.74	3.5	< 0.0001	0.0022	Extremely Significant	Very Significant
6	Standing	3.71 + 1.23	0.33 + 0.48	13.83	3.16	< 0.0001	0.0049	Extremely Significant	Very Significant
7	Sleeping	3.42 + 0.87	0.28 + 0.46	18.05	2.82	< 0.0001	0.0104	Extremely Significant	Significant
8	Sex Life	2.28 + 0.95	0.09 + 0.30	10.95	1.45	< 0.0001	0.1623	Extremely Significant	Not Significant
9	Social Life	2.33 + 1.15	0.14 + 0.35	9.26	1.82	< 0.0001	0.0829	Extremely Significant	Not Quite Significant
10	Travelling	3.61 + 1.07	0.33 + 0.48	15.48	3.16	< 0.0001	0.0049	Extremely Significant	Very Significant

DISCUSSION

The purpose of the present study was to find out the comparison of the effect of Feldenkrais Method and Conventional Exercise Protocol on neck pain and low back pain in corporate employees working from home in COVID-19. A significant reduction was found in neck pain and low back pain with Feldenkrais Method along with Conventional Exercise Protocol in corporate employees working from home. This result confirms our null hypothesis in accordance with previous reports.

Good posture matters a lot in preventing musculoskeletal disorders including neck pain and low back pain. It is the only one aspect of maintaining the functionality as we age. Everyone performs tasks daily and many believe the work or tasks is sustain musculoskeletal health. Hence, regularly

scheduled exercises the important aspects of body maintenance becomes more critical. Neck pain and low back pain are exceedingly common musculoskeletal disorders and the leading causes of disability worldwide. So, it is necessary to use exercise, posture and ergonomic principles to prevent, maintain and enjoy body health for life.

The objective of this study was to determine the comparison of the effect of FM and Conventional Exercise Protocol on neck pain and low back pain in corporate employees working from home. The study was carried out on 42 corporate employees working from home. They were divided into two groups of 21 each: Group A as a control group and Group B as an experimental. Group A was instructed to follow only the Conventional Exercise Protocol. For example: (Neck Pain- Hot Moist Pack for 15 mins, Static Exercises, Chin

tucking, Stretching exercises. Low Back Pain-Hot Moist Pack for 15 mins, Static Back and Static Hamstring Exercises, Pelvic tilting, Pelvic Bridging, Curl-up exercises, Stretching Exercises, etc) Group B was instructed to follow the FM along with Conventional Exercise Protocol. Both groups were instructed to follow the exercise session for 6 days per week as 4 weeks protocol.

Significant change was found in between group A and group B.

And physiotherapists can have an upper hand and can design various protocols accordingly. A significant reduction was found in neck pain and low back pain with FM along with Conventional Exercise Protocol in corporate employees working from home in COVID-19.

Consequently, this study focuses on how FM along with conventional exercise protocol causes reduction in neck pain and low back pain in corporate employees working from home.

CONCLUSION

A significant reduction was found in neck pain and low back pain with FM along with Conventional Exercise Protocol in corporate employees working from home in COVID-19. The data was assessed and a significant reduction in neck pain and low back pain in corporate employees working from home.

LIMITATIONS OF THE STUDY

- The study is limited to small sample size.
- Inadequate time for the study.
- Since, this study was conducted through online session, we cannot exactly predict whether the results and information given by the subjects are precise.

SUGGESTIONS AND RECOMMENDATIONS

- This project can be further taken up for the studies, so that we can properly assess the subjects and find out the actual effect of Feldenkrais method and conventional exercise protocol on neck pain and low back pain in corporate employees working from home.
- Adequate time should be given to actually screen the target population

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