

COMPARATIVE EFFECTS OF KINETIC CONTROL TRAINING AND MOTOR CONTROL EXERCISES ON PAIN, DISABILITY, STRENGTH AND ENDURANCE IN TAXI DRIVERS WITH SACROILIAC JOINT DYSFUNCTION

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Abstract

Background: Sacroiliac joint dysfunction is a common musculoskeletal condition that may contribute to pain, disability, reduced muscle strength, and impaired endurance, particularly among taxi drivers exposed to prolonged sitting and repetitive postural demands. Kinetic Control Training and Motor Control Exercises are rehabilitation approaches aimed at improving movement control and functional performance; however, their comparative effectiveness in taxi drivers with sacroiliac joint dysfunction remains unclear. **Objective:** To compare the effects of Kinetic Control Training and Motor Control Exercises on pain, disability, muscle strength, and endurance in taxi drivers with sacroiliac joint dysfunction. **Methods:** A randomized controlled trial study was conducted among taxi drivers diagnosed with sacroiliac joint dysfunction. Participants were divided into two intervention groups: Group A received Kinetic Control Training, while Group B received Motor Control Exercises. Pre- and post-treatment outcomes were assessed using the Numeric Pain Rating Scale (NPRS) for pain, a disability scale for functional disability, a muscle strength measure, and an endurance test. Post-treatment outcomes were compared between the two groups using appropriate statistical analysis, with statistical significance set at $p < 0.05$. **Results:** Group A demonstrated significantly better post-treatment outcomes than Group B across all measured variables. The mean NPRS score was significantly lower in Group A (2.35 ± 1.23) compared with Group B (4.45 ± 1.40) ($Z = -4.032$, $p < 0.001$). Disability scores were also significantly lower in Group A (21.05 ± 6.26) than in Group B (26.25 ± 6.18) ($Z = -2.264$, $p = 0.024$). Muscle strength was significantly greater in Group A (35.30 ± 3.64) compared with Group B (29.80 ± 4.34) ($Z = -3.530$, $p < 0.001$). Furthermore, endurance was significantly higher in Group A (100.95 ± 14.04 seconds) than in Group B (78.40 ± 10.65 seconds) ($Z = -4.223$, $p < 0.001$). **Conclusion:** Kinetic Control Training

produced significantly greater improvements in pain, disability, muscle strength, and endurance than Motor Control Exercises in taxi drivers with sacroiliac joint dysfunction. Kinetic Control Training may therefore be a more effective rehabilitation approach for improving clinical and functional outcomes in this population.

INTRODUCTION

One of the main causes of pain, disability, and decreased job capacity across all occupational categories is musculoskeletal disorders, which constitute a significant worldwide health concern. One of the main causes of years spent disabled is low back pain, which is still the most common musculoskeletal ailment in the world. Sacroiliac joint dysfunction has become more well recognized as one of the mechanical reasons of low back pain, accounting for 15–30% of cases. (1) The onset and persistence of sacroiliac joint dysfunction are significantly influenced by occupational exposure. The lumbopelvic region is subjected to extended mechanical stress in jobs requiring prolonged sitting, repetitive postures, restricted movement variability, and vibration exposure.(2) As a result, rehabilitation strategies that address movement quality and neuromuscular coordination are considered essential in the management of sacroiliac joint dysfunction.(3) Motor control training has emerged as a widely used rehabilitation approach for individuals with lumbopelvic pain and sacroiliac joint dysfunction.(4) Kinetic control training is a movement-based method that focuses on finding and correcting excessive or uncontrolled joint movements during functional activities. Kinetic control training aims to improve movement patterns, joint alignment, and coordination throughout the kinetic chain rather than just muscle activation.(5) In patients with sacroiliac joint dysfunction, there are no randomized controlled trials that directly compare these two approaches.

In addition, occupational groups that are subjected to prolonged sitting and repetitive mechanical stress, such as taxi drivers, are underrepresented in rehabilitation research.(6) In order to determine the most effective strategy for addressing pain, functional limitations, movement control impairments, and cognitive aspects of sacroiliac joint dysfunction, comparative evaluation of these interventions is clinically crucial. Understanding how these interventions influence both physical and cognitive outcomes may contribute to the development of more comprehensive and occupation-specific rehabilitation programs. As a result, the goal of this randomized controlled trial is to compare the effects of kinetic control training and motor control training on pain, functional ability, movement control, and cognitive outcomes among taxi drivers who have sacroiliac joint dysfunction. This study's findings may be useful for making clinical decisions and improving rehabilitation plans for people who work as drivers for long periods of time.(7) Professional drivers had a 12-month prevalence of low back pain of approximately 53%, according to a large systematic review and meta-analysis. Prolonged driving time and ergonomic stressors were identified as major contributors.(8) Motor control training has been shown to reduce pain and improve function. Kinetic control training shows promise in addressing movement impairments, but robust evidence comparing it with motor control training is lacking. (9)There is a clear need for well-designed randomized controlled

trials that evaluate the effects of these interventions on pain, function, movement control, and cognitive outcomes in high-risk occupational populations. (10) For people who have sacroiliac joint dysfunction and occupational drivers, addressing these gaps could lead to rehabilitation strategies that are better suited to their needs and more effective. (11) A clinical condition that is characterized by pain and limited movement at the sacroiliac joint. It is found by positive results on standard SIJ provocation tests like tool SIJ Provocation Tests the Gaenslen's test, the distraction test, the compression test, and the thigh thrust test. (12) A rehabilitation program that uses exercises to improve segmental control, joint alignment, and coordinated muscle activation to change bad movement patterns. (13) In this study, functional movement retraining exercises for the lumbopelvic and hip regions were performed three times per week for six weeks under the supervision of a therapist. (14) Professional drivers had a 12-month prevalence of low back pain of approximately 53%, according to a large systematic review and meta-analysis. Prolonged driving time and ergonomic stressors were identified as major contributors. (15). (17). (18) Participants are considered to have SIJD if at least 3 out of 5 clinical tests are positive. (19) Individuals who have been driving taxis as their primary occupation for at least two years and work at least six hours per day, five days per week. In this we use Occupational history questionnaire/interview (20) The tool we use is Kinetic Control Exercise Protocol (therapist-supervised functional exercises) (21) The mental processes involved in attention, concentration, and awareness during movement, assessed using the Trail Making Test (TMT) Part A and B and Stroop Color and Word Test. Higher scores indicate better cognitive function and executive control, which may influence movement strategy and functional

performance. (22) The subjective experience of discomfort measured using the **Numeric Pain Rating Scale (NPRS)** ranging from **0 (no pain) to 10 (worst imaginable pain)**. Pain scores will be recorded before and after the intervention period. (23)

METHODS

This study design was Randomized Control Trial. The research work was conducted at Fatima Jinnah hospital. After approval of synopsis the study was completed within 6 months duration. A total of 40 participants make a diagnosis with Sacroiliac Joint Dysfunction affecting Pain, Function, Movement Control, and Cognition life will be included in the study. Simple Random Consecutive Technique Was used. Inclusion Criteria: Male or female taxi drivers aged 25–55 years. One year experience of Taxi Driver Actively driving taxis for at least 6 hours per day, 5 days a week, for a minimum of 2 years. Clinically diagnosed with sacroiliac joint dysfunction, confirmed by at least 3 positive SIJ provocation tests (e.g., distraction, compression, thigh thrust, Gaenslen's, sacral thrust). Experiencing low back or pelvic pain for at least 3 months (chronic/sub-acute). Willing to participate in supervised exercise sessions for the duration of the study. Able to understand instructions and provide informed consent. (27) Exclusion Criteria: History of spinal surgery, hip replacement, or pelvic fracture. Diagnosed with a systemic or inflammatory condition that affects the spine or pelvis (such as rheumatoid arthritis or ankylosing spondylitis). Through taxi stands, local unions, and social media, 40 taxi drivers who meet the inclusion and exclusion criteria were recruited. Participants will undergo screening interviews, and written informed consent was obtained after explaining the study purpose, procedures, risks, and benefits. Approximately 45–60 minutes per participant. Assessment was conducted by a blinded evaluator to ensure objectivity and

reduce bias. The participants were randomly allocated into two intervention groups: the Kinetic Control Training (KCT) group and the Motor Control Exercise (MCE) group. Both groups received treatment for 6 weeks, with 3 sessions per week, and each session lasted approximately 30–45 minutes. The KCT group performed individualized exercises aimed at identifying and correcting uncontrolled or faulty movement patterns of the lumbopelvic and sacroiliac region. The intervention included specific movement-control exercises, activation of the deep trunk and pelvic stabilizing muscles, functional movement retraining, and progressive strengthening according to the participants' movement impairments. The MCE group performed exercises focused on improving neuromuscular control and endurance of the deep stabilizing musculature, particularly the transversus abdominis, multifidus, pelvic floor, and gluteal muscles, followed by progressive functional and stabilization exercises. Exercise intensity and difficulty were gradually progressed according to the participants' tolerance and performance. Both groups received education regarding proper posture, body mechanics, and strategies to minimize prolonged or faulty sitting during taxi driving. Pain, disability, muscle strength, and muscular endurance were assessed before and after the intervention using standardized outcome measures.

RESULTS

The present study included 40 participants who were equally divided into Kinetic Control Training and Motor Control Exercise groups. Baseline demographic characteristics showed that both groups were comparable in terms of age and gender distribution, ensuring homogeneity before the intervention. Descriptive analysis demonstrated considerable improvements in all outcome measures following treatment, with reductions in pain intensity and disability and increases in muscle strength and endurance. The results of this study demonstrated that both Kinetic Control Training and Motor Control Exercises significantly improved pain, disability, muscle strength, and endurance in taxi drivers with sacroiliac joint dysfunction. Within-group analysis revealed statistically significant improvements in all outcome measures following both interventions ($p < 0.001$). However, the between-group comparison showed that participants who received Kinetic Control Training achieved significantly greater reductions in pain and disability and greater improvements in muscle strength and endurance than those who received Motor Control Exercises. These findings indicate that although both treatment approaches were effective, Kinetic Control Training was clinically and statistically more effective in improving functional outcomes in taxi drivers with sacroiliac joint dysfunction.

Table 4.1 Demographic Characteristics

Demographics Variable	Kinetic (n=20) (Mean±SD)	Motor (n=20) (Mean±SD)
Age	39.90±9.20	38.45±8.71
Male	18 (90%)	18 (90%)
Female	2 (10%)	2 (10%)

Table 4.1 presents the baseline demographic characteristics of the participants included in the study. A total of 40 participants were equally allocated into two groups: the Kinetic Control Training group (n = 20) and the Motor Control Exercise group (n = 20). The mean age of

participants in the Kinetic Control Training group was 39.90 ± 9.20 years, while the Motor Control Exercise group had a mean age of 38.45 ± 8.71 years. The overall mean age of the study population was 39.18 ± 8.87 years, indicating that participants belonged predominantly to the

middle-aged adult population. Regarding gender distribution, both groups consisted of 18 males (90%) and 2 females (10%), resulting in an identical male-to-female ratio across groups. The similarity in age and gender distribution demonstrates that the participants were well matched at baseline, reducing the likelihood of

demographic characteristics influencing the treatment outcomes. Therefore, any differences observed after the intervention can reasonably be attributed to the effects of the treatment protocols rather than pre-existing demographic differences.

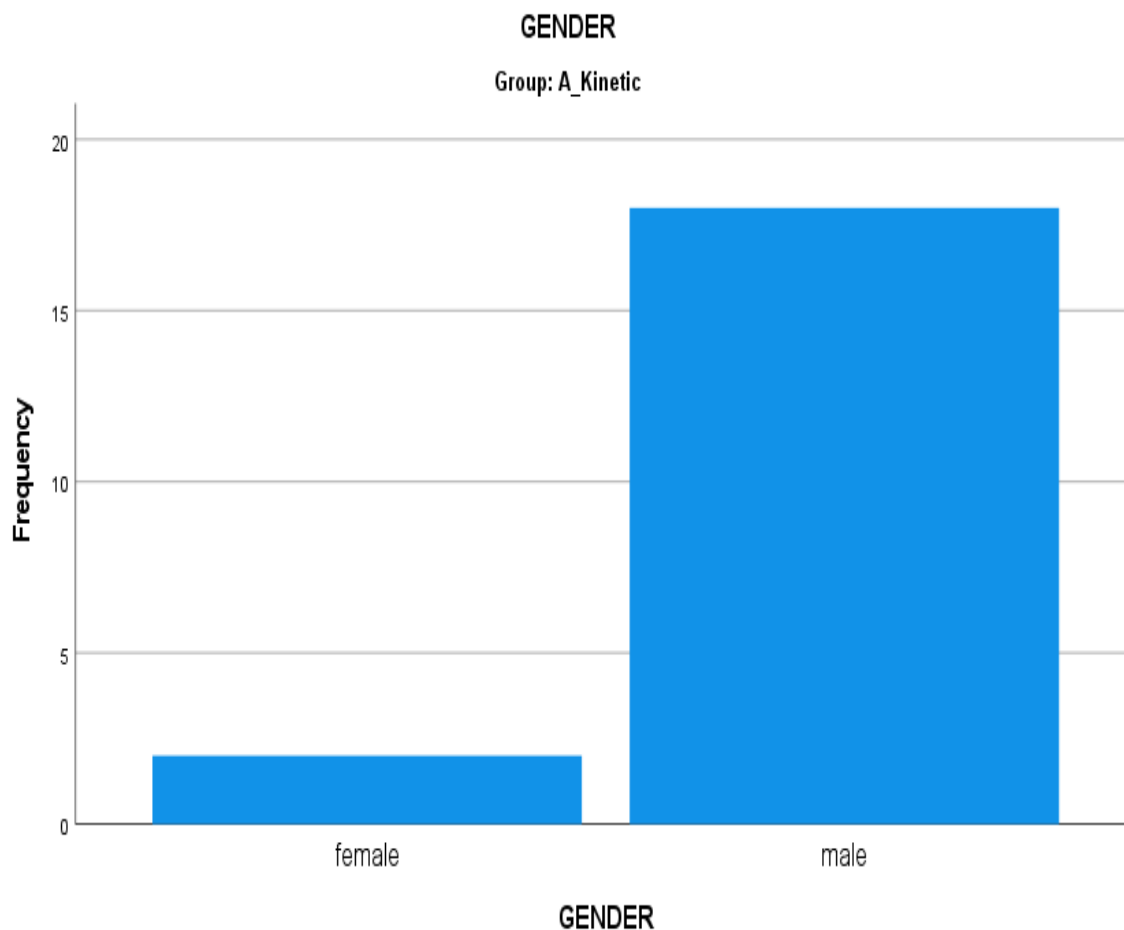


Figure 4.1 gender distribution group A

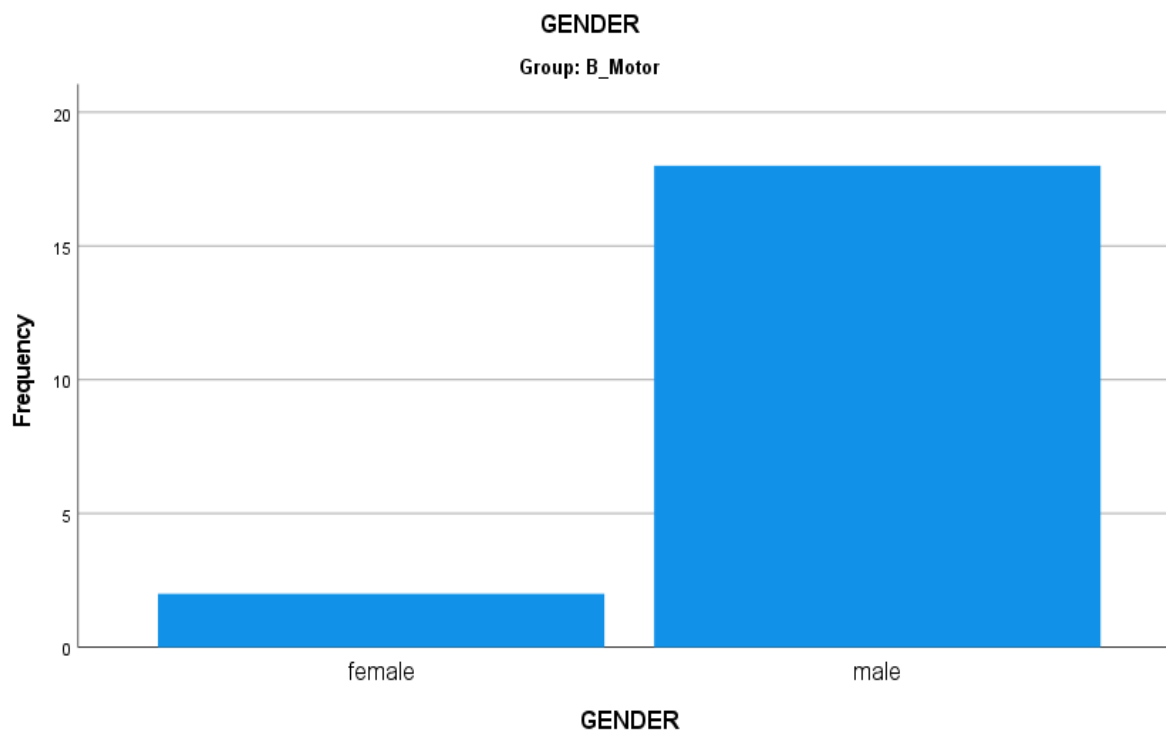


Figure 4.2 gender distribution group B

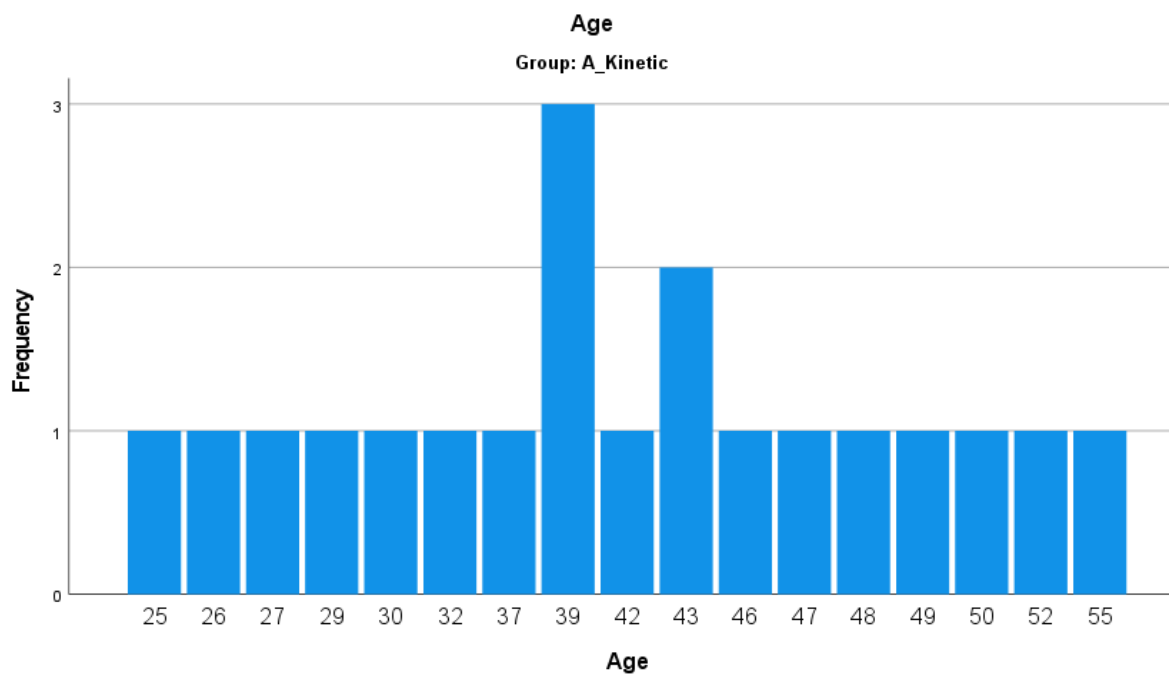


Figure 4.3 Age distribution group A

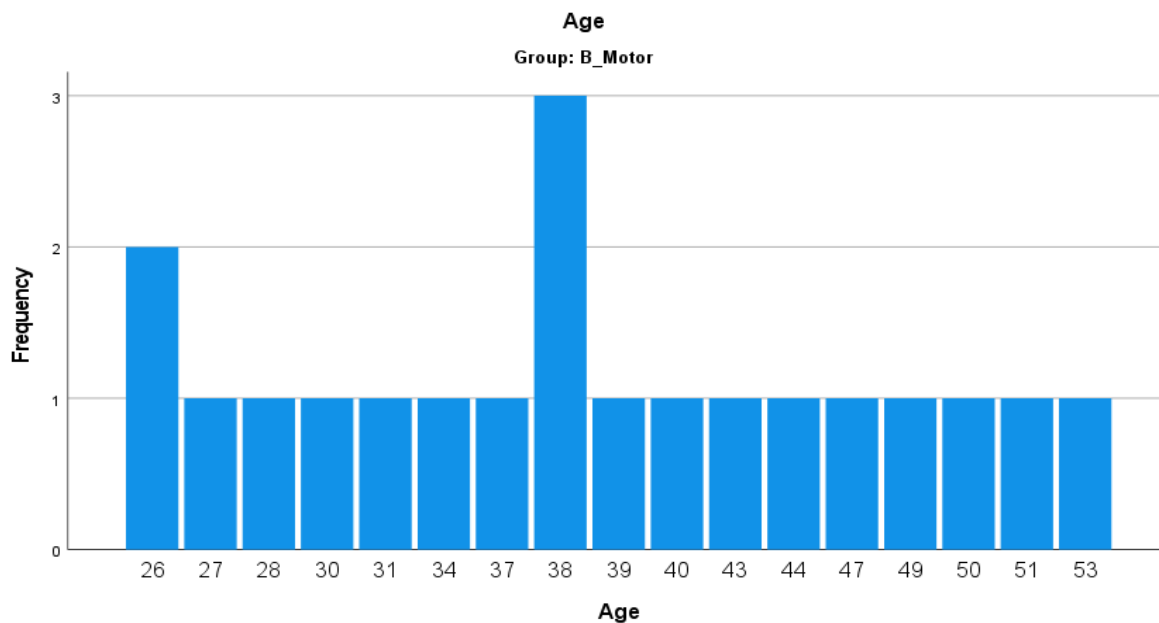


Figure 4.4 gender distribution group B

Table 4.2 Descriptive Statistics

Outcome tools	Pre Mean±SD	Post Mean±SD
Pain (NPRS)	7.35±1.10	3.40±1.68
ODI	42.45±5.69	23.65±6.68
Strength	23.70±3.77	32.55±4.84
Endurance (s)	51.80±11.03	89.68±16.78

Table 4.2 presents the descriptive statistics of all outcome measures before and after the intervention. The mean pain intensity measured by the Numeric Pain Rating Scale (NPRS) decreased substantially from 7.35 ± 1.10 before treatment to 3.40 ± 1.68 after treatment, indicating a marked reduction in pain levels following intervention. Similarly, the Oswestry Disability Index (ODI), which measures functional disability, improved considerably from a pre-treatment mean score of 42.45 ± 5.69 to a post-treatment mean score of 23.65 ± 6.68 , suggesting a significant reduction in disability

and improved functional ability. In contrast, muscle strength increased from 23.70 ± 3.77 to 32.55 ± 4.84 , reflecting enhanced muscular performance after treatment. Likewise, endurance demonstrated a remarkable improvement, increasing from 51.80 ± 11.03 seconds before intervention to 89.68 ± 16.78 seconds after intervention. Collectively, these descriptive findings indicate that both treatment interventions resulted in clinically meaningful improvements by reducing pain and disability while simultaneously increasing strength and endurance among the participants.

Table 4.3 Tests of Normality

Shapiro-Wilk			
	Statistic	Df	Sig.
Pre_NPRS	.857	40	.000

Pre_ODI	.936	40	.026
Pre_Strength	.941	40	.037
Pre_Endurance_s	.940	40	.034

Table 4.3 The Shapiro-Wilk test indicated that all outcome variables had p-values less than 0.05, suggesting that the data were not normally distributed from baseline. For the measurements, all test statistics were significant ($p > 0.05$) showing that data distribution at each time point were not

normal. Shapiro Wilk shows P values less than 0.05 followed not normal distribution. These results suggest that data of all variables meet the normality assumption for using the non-parametric tests Therefore, non-parametric statistical tests were used for further analysis.

Table 4.4 Within-Group Comparison of Outcome Measures in Group A Kinetic Control Training

Outcome Variable	Pre-treatment Mean $\pm$ SD	Post-treatment Mean $\pm$ SD	Mean Difference	Z-value	p-value
NPRS	7.35 $\pm$ 1.09	2.35 $\pm$ 1.23	-5.00	-5.544	<0.001
ODI	44.75 $\pm$ 5.27	21.05 $\pm$ 6.26	-23.70	-5.515	<0.001
Strength	24.10 $\pm$ 4.42	35.30 $\pm$ 3.64	+11.20	-5.521	<0.001
Endurance (sec)	52.55 $\pm$ 11.42	100.95 $\pm$ 14.04	+48.40	-5.513	<0.001

Table 4.4 presents the within-group comparison of clinical outcomes among participants who received Kinetic Control Training. The mean pain intensity (NPRS) decreased from 7.35 $\pm$ 1.09 before treatment to 2.35 $\pm$ 1.23 after treatment, with a mean reduction of 5.00 points, indicating substantial pain relief. Similarly, the mean disability score (ODI) decreased from 44.75 $\pm$ 5.27 to 21.05 $\pm$ 6.26, showing a mean improvement of 23.70 points, which reflects a marked reduction in functional disability. Muscle strength increased from 24.10 $\pm$ 4.42 to 35.30 $\pm$

3.64, with a mean improvement of 11.20 units, while endurance improved from 52.55 $\pm$ 11.42 seconds to 100.95 $\pm$ 14.04 seconds, with a mean increase of 48.40 seconds. The Wilcoxon Signed-Rank test revealed statistically significant improvements in all outcome measures ($Z = -5.513$ to -5.544 , $p < 0.001$), demonstrating that Kinetic Control Training was highly effective in reducing pain and disability and enhancing muscle strength and endurance in taxi drivers with sacroiliac joint dysfunction.

Table 4.5 Within-Group Comparison of Outcome Measures in Group B Motor Control Exercise

Outcome Variable	Pre-treatment Mean $\pm$ SD	Post-treatment Mean $\pm$ SD	Mean Difference	Z-value	p-value
NPRS	7.35 $\pm$ 1.14	4.45 $\pm$ 1.40	-2.90	-5.544	<0.001
ODI	40.15 $\pm$ 5.25	26.25 $\pm$ 6.18	-13.90	-5.515	<0.001
Strength	23.65 $\pm$ 3.90	29.80 $\pm$ 4.34	+6.15	-5.521	<0.001
Endurance (sec)	51.05 $\pm$ 10.87	78.40 $\pm$ 10.65	+27.35	-5.513	<0.001

Table 4.5 shows the within-group comparison of clinical outcomes among participants treated with Motor Control Exercises. The mean NPRS score decreased from 7.35 ± 1.14 to 4.45 ± 1.40 , with a mean reduction of 2.90 points, indicating a decrease in pain intensity. Likewise, the mean ODI score improved from 40.15 ± 5.25 to 26.25 ± 6.18 , resulting in a mean reduction of 13.90 points, which indicates decreased disability. Muscle strength increased from 23.65 ± 3.90 to 29.80 ± 4.34 , with a mean improvement of 6.15 units, while endurance improved from $51.05 \pm$

10.87 seconds to 78.40 ± 10.65 seconds, with a mean increase of 27.35 seconds. The Wilcoxon Signed-Rank test demonstrated statistically significant improvements in all outcome measures ($Z = -5.513$ to -5.544 , $p < 0.001$). These findings indicate that Motor Control Exercises were also effective in improving pain, disability, strength, and endurance; however, the magnitude of improvement was smaller than that observed in the Kinetic Control Training group.

Table 4.6 Between-Group Comparison of Pre-treatment Outcome Measures

Outcome	Group A Mean $\pm$ SD	Group B Mean $\pm$ SD	Mean Rank (A/B)	Z-value	p-value
NPRS	7.35 ± 1.09	7.35 ± 1.14	20.53 / 20.48	-0.014	0.989
ODI	44.75 ± 5.27	40.15 ± 5.25	25.28 / 15.73	-2.590	0.010
Strength	24.10 ± 4.42	23.65 ± 3.90	20.88 / 20.13	-0.204	0.839
Endurance	52.55 ± 11.42	51.05 ± 10.87	21.33 / 19.68	-0.447	0.655

Table 4.6 compares the baseline characteristics of Group A and Group B before treatment. The mean pre-treatment NPRS scores were identical in both groups (7.35 ± 1.09 vs 7.35 ± 1.14), with no statistically significant difference ($Z = -0.014$, $p = 0.989$), indicating similar baseline pain levels. Likewise, no statistically significant differences were observed in muscle strength (24.10 ± 4.42 vs 23.65 ± 3.90 ; $Z = -0.204$, $p = 0.839$) or endurance (52.55 ± 11.42 vs 51.05 ± 10.87 seconds; $Z = -$

0.447, $p = 0.655$), confirming that both groups were comparable before intervention. However, a statistically significant difference was found in baseline disability scores, with Group A showing higher ODI values than Group B (44.75 ± 5.27 vs 40.15 ± 5.25 ; $Z = -2.590$, $p = 0.010$). Overall, except for disability, the two groups were comparable at baseline, allowing a valid comparison of treatment outcomes.

Table 4.7 Between-Group Comparison of Post-treatment Outcome Measures

Outcome	Group A Mean $\pm$ SD	Group B Mean $\pm$ SD	Mean Rank (A/B)	Z-value	p-value
NPRS	2.35 ± 1.23	4.45 ± 1.40	13.20 / 27.80	-4.032	<0.001
ODI	21.05 ± 6.26	26.25 ± 6.18	16.33 / 24.68	-2.264	0.024
Strength	35.30 ± 3.64	29.80 ± 4.34	27.00 / 14.00	-3.530	<0.001
Endurance	100.95 ± 14.04	78.40 ± 10.65	28.30 / 12.70	-4.223	<0.001

Table 4.7 presents the comparison of post-treatment outcomes between the two intervention groups. After treatment, Group A demonstrated significantly better clinical outcomes than Group B. The mean post-

treatment NPRS score was significantly lower in

Group A (2.35 ± 1.23) compared with Group B (4.45 ± 1.40) ($Z = -4.032$, $p < 0.001$), indicating greater pain reduction. Similarly, disability scores were significantly lower in Group A ($21.05 \pm$

6.26) than in Group B (26.25 ± 6.18) ($Z = -2.264$, $p = 0.024$). Muscle strength was significantly higher in Group A (35.30 ± 3.64) compared with Group B (29.80 ± 4.34) ($Z = -3.530$, $p < 0.001$). In addition, endurance improved significantly more in Group A (100.95 ± 14.04 seconds) than in Group B (78.40 ± 10.65 seconds) ($Z = -4.223$, $p < 0.001$). These findings indicate that Kinetic Control Training produced significantly greater improvements in pain, disability, muscle strength, and endurance than Motor Control Exercises, suggesting that it is the more effective rehabilitation approach for taxi drivers with sacroiliac joint dysfunction.

DISCUSSION

The present study was conducted to compare the effects of Kinetic Control Training (KCT) and Motor Control Exercises (MCE) on pain, disability, muscle strength, and endurance among taxi drivers diagnosed with sacroiliac joint dysfunction (SIJD). The findings demonstrated that both intervention groups experienced statistically significant improvements in all outcome measures following the treatment period. Researchers such as Richardson, Hodges, and Hides emphasized that restoring coordinated activation of the deep trunk musculature improves spinal stability and reduces nociceptive input from dysfunctional joints. Similarly, Laslett highlighted that conservative physiotherapy interventions focusing on movement correction can effectively reduce pain in patients with sacroiliac joint dysfunction. (1) The findings of the present study agree with these reports, as both intervention groups demonstrated clinically meaningful reductions in Numeric Pain Rating Scale (NPRS) scores. However, the Kinetic Control Training group achieved a greater reduction in pain than the Motor Control Exercise group, suggesting that correcting faulty movement patterns alongside muscle activation provides additional therapeutic benefits beyond isolated motor control exercises.(2) The improvements in disability observed in this study also correspond with previous literature evaluating rehabilitation strategies for chronic

low back pain and sacroiliac joint dysfunction. Functional disability, measured using the Oswestry Disability Index (ODI), decreased significantly in both groups, indicating enhanced ability to perform daily and occupational activities. These findings are consistent with studies by O'Sullivan and colleagues, who demonstrated that movement-based rehabilitation programs focusing on correcting maladaptive movement behaviors significantly improve functional outcomes in patients with persistent lumbopelvic disorders.(2) Likewise, systematic reviews evaluating motor control exercises have concluded that improving neuromuscular coordination reduces disability by enhancing spinal stability and promoting efficient load transfer through the pelvis. The greater reduction in disability observed in the Kinetic Control Training group may be explained by its emphasis on identifying and correcting faulty movement patterns during functional tasks rather than strengthening muscles alone. Taxi drivers are continuously exposed to prolonged sitting, repetitive trunk rotation, and asymmetrical loading while driving. Therefore, correcting these movement impairments directly addresses the biomechanical factors responsible for disability, resulting in greater functional improvement than conventional Motor Control Exercises(3). Another important finding of the present study was the significant improvement in muscle strength and endurance following both interventions, with Kinetic Control Training producing substantially greater gains. These findings support previous evidence suggesting that rehabilitation programs emphasizing neuromuscular control improve muscular performance by enhancing recruitment of deep stabilizing muscles, increasing movement efficiency, and reducing compensatory muscle overactivity. (4) Improved muscular endurance is particularly important for taxi drivers because prolonged driving demands sustained activation of postural muscles, and fatigue of these muscles contributes to recurrent pain and functional limitation.(5) Overall, the findings of the present study strongly support current evidence

advocating conservative physiotherapy as the first-line treatment for sacroiliac joint dysfunction. Both interventions were effective in improving clinical outcomes; however, Kinetic Control Training consistently demonstrated superior effectiveness across all measured variables. The incorporation of movement correction, posture education, and individualized functional retraining appears to provide additional benefits beyond conventional Motor Control Exercises.(6) Although the findings of the present study strongly support the effectiveness of Kinetic Control Training over Motor Control Exercises, not all previous studies have reported similar results. Several randomized controlled trials and systematic reviews have concluded that Motor Control Exercises alone are sufficient to achieve clinically meaningful improvements in pain and disability among individuals with chronic low back pain. For example, systematic reviews by Saragiotto et al. and Smith et al. suggested that while Motor Control Exercises significantly reduce pain and improve functional ability, they may not be consistently superior to other forms of exercise therapy. (7)These authors argued that different exercise approaches often produce comparable outcomes because regular physical activity itself improves muscle activation, circulation, joint mobility, and psychological confidence.(8) Consequently, exercises that closely resemble occupational movements may produce greater functional improvements than isolated motor control techniques. This difference highlights the importance of selecting rehabilitation programs according to occupational demands rather than relying on a single standardized exercise protocol for all patients.(9)This individualized approach likely improved movement quality, reduced abnormal mechanical stress on the sacroiliac joint, and enhanced functional efficiency during daily activities. In addition, participants in this study were actively employed taxi drivers whose symptoms were closely related to occupational posture and repetitive mechanical loading. Addressing these specific biomechanical problems may explain why Kinetic Control

Training achieved better results than those reported in studies involving more heterogeneous patient populations.(10)

Conclusion

The findings of the present study indicate that both Kinetic Control Training and Motor Control Exercises resulted in statistically significant improvements in pain, disability, muscle strength, and endurance among taxi drivers with sacroiliac joint dysfunction ($p < 0.001$). However, participants who received Kinetic Control Training demonstrated greater reductions in pain and disability and greater improvements in muscle strength and endurance than those who received Motor Control Exercises.

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