



# CERTIFICATE

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**Title:** The Impact of Functional Movement Screening (FMS)-Derived Exercise Program on Core Muscle Endurance and Dynamic Postural Control in Preventing Anterior Cruciate Ligament Injuries in Female Soccer Players

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**Dr. Zahra Salman**  
Congress President



**Dr. Hossein Zareian**  
General Chair





## The Impact of Functional Movement Screening (FMS)-Derived Exercise Program on Core Muscle Endurance and Dynamic Postural Control in Preventing Anterior Cruciate Ligament Injuries in Female Soccer Players

پذیرفته شده برای پوستر

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کد مقاله: 1574-SSRC

نویسندگان

Zahra Barati✉: Ahmad Ebrahimi Atri: Behnaz Shahtahmassebi

دانشگاه فردوسی مشهد

چکیده

### Background

Soccer is one of the most universal sports which involves cutting maneuvers and high physical contact. This can lead to a range of injuries from moderate muscle strain to severe/complex injuries such as Anterior cruciate ligament (ACL) tear particularly when soccer players play at the professional and competitive level. Therefore designing and implementing an effective prevention strategy for soccer players is deemed essential.

### Aim

The purpose of this study is to explore the impact of functional movement screening (FMS)-derived exercise program on core muscle endurance and dynamic postural stability in preventing anterior cruciate ligament Injuries among semi-professional female soccer players.

### Materials and methods

A semi-experimental design with pre-test and post-test assessments was used in the present study. A total of 30 semi-professional female soccer players were randomly assigned to two groups the experimental group (mean age=21.5±5.2 years height=169.33±10.43 cm. weight=64.75±15.58 kg) and the control group (mean age=21.58±2.15 years height=173.58±9.01 cm. weight=64.33±12.8kg). Core muscle endurance and postural stability were assessed using McGill's torso muscular endurance test and the Y-balance test respectively.

An eight-week exercise program, comprising three sessions per week, each lasting 20-25 minutes was implemented for the experimental group as a warm-up routine. The control group continued with their regular exercise routine for their warm-up. All the outcome measures were assessed at week 0 (baseline) and week 8. Statistical analysis was conducted using a one-way repeated measures ANOVA. The significance level was considered  $p \leq 0.05$ .

### Results

After 8 weeks of the FMS exercise program, significant between-group improvements were observed in McGill's torso muscular endurance test and the Y-balance test in the experimental group compared to the control group ( $P \leq 0.05$ ). Participants in only the FMS exercise program demonstrated significant within-group improvement in McGill's torso muscular endurance test and the Y-balance test in week 8 compared to baseline (pre-post comparison).

### Conclusion

Overall, the exercise program derived from FMS has a significant impact on core stability and dynamic postural control in female soccer players and may be effective in preventing ACL injuries.

کلیدواژه ها به انگلیسی

Core Stability, Dynamic Balance, Injuries, Prevention, Soccer

نوع پذیرش

پذیرفته شده برای ارائه شفاهی (115)

پذیرفته شده برای پوستر (756)

موضوعات

Sports Biomechanics • (1)

جستجو

بیاب

جستجوی پیشرفته

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