

Research Article

Analysing the Effect of FIFA 11+ Programme for Improving Agility and Explosive Strength among Football Players

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A B S T R A C T

Introduction: Football is a dynamic game, which involves numerous injuries. The FIFA 11+ programme was developed by FIFA (International Federation of Association Football) for the better performance and injury prevention of elite athletes. This study aims to analyse how this specific protocol influences the prevention of injury by assessing the indirect correlation of agility and explosive strength on injury prevention.

Materials And Method: Thirty subjects were included in this research work and were divided into the Experimental and Control groups. The total study duration was 8 weeks. The FIFA 11+ programme was given to the Experimental group and regular training was given to the Control group. Pre- and post-test evaluations were done on the variables of agility and explosive strength with agility t test and vertical jump test.

Results: Experimental group showed better clinical significance than Control Group for agility and explosive strength with t values of 5.4 and 5.7, respectively ($p < 0.05$).

Conclusion: The FIFA 11+ programme was helpful in preventing injuries and improving performance among collegiate football players.

Keywords: Fifa 11+ Programme, Agility, Explosive Strength, Agility T Test, Vertical Jump Test

Introduction

Sports people frequently experience musculoskeletal disorders, particularly in the thighs and knee (both ligamentous and meniscal lesions). Football players are prone to sprains, contusions, and strains.^{1,2}

One of the most popular sports in the world with a high reported injury rate is football. Professional football players' injuries cause them to miss a lot of play, increase the expense of healthcare, and sometimes even end their careers.^{3,4}

The FIFA 11+ programme is designed to reduce injuries and enhance the performance of players by focusing on the knee joint and other musculoskeletal structures.^{5,6}

Knee injuries in football are of great concern because they result in substantial physical disability, financial cost, lost playing hours, and may even end a career. These injuries are the most common reason for surgery in football and of all injuries observed in football, knee injuries account for the most time lost.

Anterior Cruciate Ligament injuries have the highest morbidity among knee injuries for football players and result in the most time lost. Improving agility and explosive strength enhances performance. Hence this research was needed to analyse the effect of the FIFA 11+ programme on improving agility and explosive strength in football players.

Materials and Method

The study used experimental study design and randomised sampling technique. The study setting was KG College of Physiotherapy, Outpatient Department and sports ground. The subjects were collegiate football players aged between 18 and 25 years. Only male athletes were included. A total of 30 subjects participated in this research. The total duration was 8 weeks. The subjects were selected based on a few criteria, which were willingness, aged between 18 and 25 years, persons without lower extremity injury and ACL injury with height ranging from 165 cm to 175 cm and weight between 65 and 75 kg. Those who had a history of lower extremity injury, ACL injury, or any functional impairments were excluded. This research work was approved by the Institutional Ethics Committee of KG Hospital. SPSS statistical tool was used for data analysis. Pre- and post-test evaluations were done on the variables of agility and explosive strength with agility t test and vertical jump test. Agility t test is the most reliable and valid tool to assess agility, in which the player needs to run in a straight line and involves sudden directional changes. The time taken to cover the distance is quantified for statistical evaluation. Vertical jump test is used for evaluating the explosive strength. The player needs to be evaluated for reaching distance in standing and jumping, and the distance between these two is considered as a score for vertical jump.

The study was comparative in nature. The subjects were randomly assigned into two equal groups (n = 15 each). Written informed consent was collected from 30 subjects. The subjects underwent training 6 days per week for 8 weeks. The Experimental group received the FIFA 11+ programme. It included running exercises, strength, plyometric and balance exercises. The total duration of this programme was 20 minutes. The Control group received regular warm-up by jogging and stretching for about 20 minutes.

Results

Unpaired t test values for agility (5.40) revealed that the post-test value of the Experimental group (9.8) showed greater significance than that of the Control group (11.19) ($p < 0.05$) (Table 1). Similarly, unpaired t test values for explosive strength (5.7) showed that the post-test value of the Experimental group (48.06) showed greater significance than the corresponding value of the Control group (39.46) ($p < 0.05$).

The study shows a difference between the results of the Experimental and Control Groups.

Table 1. Mean, SD and t Values of Agility and Explosive Strength of Experimental and Control Groups

Variables	Test	Mean	SD	t Value	p Value
Agility	Experimental group	9.8	0.54	5.4	< 0.05
	Control group	11.19	0.7		
Explosive strength	Experimental group	48.06	4.63	5.7	< 0.05
	Control group	39.46	3.40		

Discussion

The result of this research indicates peak agility and explosive strength increased after training within the Experimental group, with a significant difference between the results of the Experimental and Control groups.

The morphological adjustments to the 11+ might be connected to changes in the trunk's neuromuscular control. Core stability is helpful in increasing the performance.^{1,7}

As per previous studies, the FIFA 11+ programme has been helpful in lowering the rate of non-specific knee injuries among soccer players. This programme has been seen to reduce about 30% of injuries.⁸ The training for the FIFA 11+ programme is an exercise that can increase the excitability of the nervous system, which in turn can increase the reactive ability of the neuromuscular system.^{9,10}

Myotatic stretch reflex can be stimulated to produce a more robust muscle response during running by performing exercises that concentrate on core stability, eccentric muscle, proprioception and dynamic balance.¹¹

By improving agility and explosive strength, this protocol makes the knee joint capable of adapting to high-level loading and twisting actions. Most knee injuries are seen to happen because of these loading and twisting actions, which are above the threshold of knee structures. Thus improving agility and explosive strength indirectly affects the injury occurrence.

Conclusion

In summary, the result of the current study reveals that the FIFA 11+ programme increases agility and explosive strength. It is helpful in preventing injuries like ACL injury because both agility and explosive strength demand strong knee joints. This programme helps the knee joint to work in both static and dynamic loading activities. Thus these training protocols reduce injury occurrence and help in getting better performance.

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