

## A Survey of Knowledge and Practices of FIFA 11+ Among Coaches in Indonesia

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### Abstract

#### Background

Knowledge of FIFA 11+ is a key element in better injury prevention practices in soccer. This deficiency was observed in Indonesia with many injuries with excessive risks due to lack of understanding and application of FIFA 11+ from coaches of soccer academies.

#### Objective

To assess FIFA 11+ knowledge between coaches in registering at football academies.

#### Methods

A self-administrated questionnaire is used. 23 questions FIFA 11+ application is included in the questionnaire. A total of 170 academy coaches participated in this survey. Statistical analysis is finished using SPSS.

## Results

Overall the survey average score is 51.67%. Lowest score 30% is not to do FIFA 11+. The highest score of 70% was obtained for FIFA 11+. Difference between coaches from various soccer academies is not statistically significant.

## Conclusion

FIFA 11+ knowledge between coaches at the Indonesian soccer academy needs to be improved.

## Introduction

Soccer is a contact sport that requires physical aptitude and the ability to play at high levels of intensity [1]. As a result of a soccer injury study in Indonesia, the incidence of injury to soccer athletes is mentioned; 10.1% neck injuries, 7.7% right shoulder, 1.8% left shoulder, right and left shoulder 1.8%, right elbow 3.6%, left elbow 3.0% right and left elbow 1, 2%, right wrist 8.9%, left wrist 5.4%, right and left wrist 1.8%, back 4.8%, waist 4.2%, pelvis 1.8%, knee 11, 8%, and ankle joints 21.0% [2]. Four types of injuries that often occur in football in the lower extremities such as ankle sprains and hamstring muscles tear 37% of the groin muscles 23% of the quadriceps 19% and the calf muscles 13% all account for more than 50% of all injuries [3]. In the literature, muscle injuries are grouped and 20-37% of injuries are reported in professional players and 18-23% occur in amateur soccer players [3]. Statistical data in Norway, the risk of the incidence of injury to male soccer professional players shows a total of 2365 injuries recorded, 1664 or about 70.4% suffered acute injuries and 701 or about 29.6% suffered chronic injuries. The overall incidence of acute injury is 16.1 per 1000 match hours and 1.9 per 1000 hours during training [4]. However, lack of adherence and ineffectiveness in reducing injury incidents affects its popularity among soccer players and coaches [5]. Football (soccer) is the most popular sport in the world, with around 400 million players in 208 countries, earning around 1 trillion US dollars per year [5-7]. The Football Association Internationale de Football (FIFA) estimates that 270 million football players are registered worldwide [8]. It is also shown in Indonesia how soccer became a most played outdoor team sport, without considering those who play recreational football.

The FIFA Medical Research and Assessment Center (F-MARC) developed an injury prevention and training program, the FIFA 11 program, to reduce injury incidents and promote fair play in football [9]. The FIFA 11+ program, with a total of 15 exercises, is used before training. This exercise is based on three main training modules: active and active stretching sessions; core strengthening and leg sessions; and high-speed planting and cutting sessions. The main focus of this exercise is to strengthen the core and leg muscles and to improve coordination, the balance of agility, and static, dynamic and reactive neuromuscular control. Several studies have considered the effects of a warming program on football performance; these effects include but are not limited to, an increase in the time to complete a 20m sprint, a height jump, and the time to complete an Illinois agility test [8].

However, successful injury prevention programs must also benefit performance. Although the program's main goal is to prevent injury, if it has additional performance benefits, the coach and players will be more

confident and may be more willing to implement it. In addition to understanding the effects of program performance, in addition to injury prevention, knowledge of the effects of program training can help researchers identify potential mechanisms behind reducing injury rates for athletes who take part in the program. Although the FIFA 11+ program is a set heating protocol for the prevention of injuries among football players, aspects of program performance improvement are not often discussed in the literature. Therefore, this study investigates how many levels of knowledge and application of soccer school coaches about the FIFA 11+ program in Indonesia.

## Material & Methods

The main purpose of this survey is to access and measure FIFA 11+ knowledge among soccer academy coaches for more optimal use injury prevention and begin to be more optimal soccer show. The method used in this study is a survey method and data collection techniques using multiple choice tests and interviews.

### Participants

This study aims to describe the level of knowledge of the coach about FIFA 11+ and the application of the training component to FIFA 11+. The sampling technique in this study uses purposive sampling, with the following criteria: (1) coaches who are members of a soccer academy under the auspices of PSSI (Indonesian Soccer Association), (2) permanent coaches who are still actively training at nationally licensed soccer academies, (3) Soccer academies are still actively registered under the auspices of PSSI (Indonesian Soccer Association), (4) every soccer academy is represented by coaches from each of the 34 provinces in Indonesia (5) coaches who train ages 14 and above. Based on this, that fulfilled 170 coaches.

**Table 1:** Demographic Data and Background Information for Study Participants

Variable	Value
<b>Sex</b>	No. (%)
Male	170 (100%)
<b>Post internship years of practice</b>	
1-5	35 (20%)
6-10	55 (32%)
11-15	42 (25%)
16-20	29 (17%)
> 20	9 (6%)
<b>Licenses Coaches</b>	
National D License,	81 (48%)
AFC C License	46 (27%)
AFC B License	19 (11%)
AFC A License	24 (14%)
<sup>a</sup> n = 170	

## Instrument/ Statistical Analysis

Questions prepared by Indonesian national coaches and reviewed by AFC Pro-licensed coaches; there are question to determine FIFA 11+ knowledge and practice, 23 multiple choice questions, and 2 open-ended questions designed to get feedback. Multiple choices formulated questions that are considered 6 main areas transfusion training, such as, FIFA 11+ basic information contained in the basic understanding and information of FIFA 11+ and the FIFA 11+ program in which there are goals, program rules, components and forms of FIFA 11+ training. In the demographic section, the question specifically asked about FIFA 11+ training and previous year's experience in training at soccer academies. We did a trial this questionnaire study was consulted randomly an example of an AFC Pro-licensed national soccer coach who trained at U-16 until senior Indonesia; they agree that the question is understandable, clear and relevant the purpose of our research. Every correct answer produces a score of 1, and the "I don't know" response is included in each question to minimize guessing. The maximum possible score 23. Anonymity and confidentiality are guaranteed. We analyze data using SPSS software, version 22 (SPSS, Inc).

**Table 2: Questionnaire**

Variable	Item	Indicator	Factor
Respondent Information and open-ended questions			1-3
Coach knowledge about FIFA 11+	FIFA 11+ basic information	Understanding of FIFA 11+	4
		FIFA 11+ information	5,6,8,9
	FIFA 11+ program	The target of FIFA 11+	7,10
		FIFA 11+ program rules	11,15,16,17
		FIFA component 11+	12,13,14,18,22
		Form of Exercise FIFA 11+	19,20,21,23
Total			23

## Results

**Table 3: FIFA 11+ program implementation by coaches**

Component	Do's	Dont's
Jogging	100%	0%
Hip Out	100%	0%
Hip In	100%	0%
Circling Partner	33.33%	66.67%
Shoulder Contract	46.67%	53.33%
Quick Fwd & Backward	73.33%	26.67%

The Bench	13.33%	86.67%
Sideway Bench	6.67%	83.33%
Hamstring	20%	80%
Single Leg Stance	0%	100%
Squats	33.33%	66.67%
Jumping	53.33%	46.67%
Across The Pitch	86.67%	13.33%
Bounding	73.37%	26.67%
Plant and Cut	100%	0%
<b>Mean</b>	<b>70%</b>	<b>30%</b>

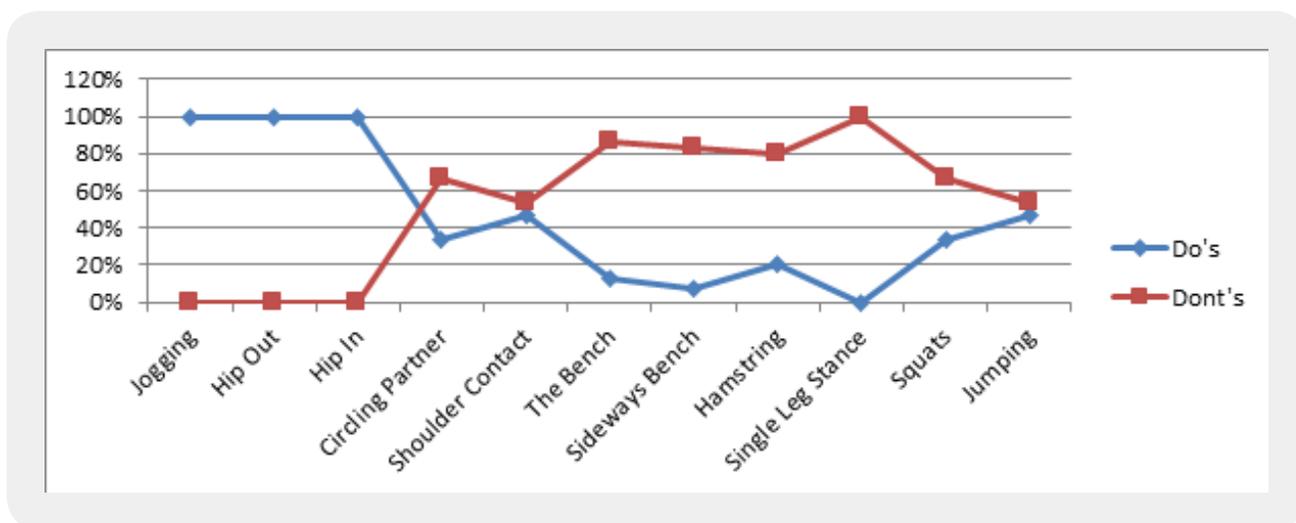


Figure 1: FIFA 11+ program implementation by coaches

Table 4: Overall Score by Various Question Topics

Topic	Mean (SD)
Knowledge coach of FIFA 11+ and Application component FIFA 11 training	51.6667
Knowledge FIFA 11+	56.0000
FIFA 11+ program	50.2222

### Discussions

This study aims to determine the level of knowledge of the coach about FIFA 11+ and the application of the components of FIFA 11+ training obtained the following results: based on the basic information of respondents obtained results that 80% of trainers have never heard of or know about the FIFA 11+ program,

and 20% know about the FIFA 11+ program, based on information sources, shows that for those who have heard the FIFA 11+ training program, 66.67% of respondents know FIFA 11+ from the internet, and 33.34% know from the seminar that was followed. Based on the results of an analysis of the level of knowledge of the coach about FIFA 11+ is in the category enough. Sequentially from the highest percentage that is in the category enough with a percentage of 80% the trainer has a level of knowledge about FIFA 11+. From the results above the researcher considers that although from the information of many respondents who do not know about the FIFA 11+ program but from the results of the analysis of the level of knowledge is in the category of “enough” this can be influenced by several factors, namely the researcher considers that the test questions are there are many components of FIFA 11+ training that are widely known by respondents. The following explained each factor from the level of knowledge of the coach about FIFA 11+. Based on the average score of 56.0, the level of knowledge of the coach about FIFA 11+ is based on the basic information factors of FIFA 11+, in the “Good” category. This means that from the basic information factor of FIFA 11+ trainers understand about the FIFA 11+ program and information obtained from FIFA 11+. From the research data, the trainer questions that most trainers answered correctly in point number 4 about the understanding of the FIFA 11+ program as many as 10 coaches answered correctly and item number 8, that is, there were 11 parts in the FIFA 11+ program, 11 trainers who answered correctly, followed by number items. 5 about the objectives of the FIFA 11+ program there are 8 coaches answered correctly, item number 6 of the institution that sparked the FIFA 11+ program there were 7 coaches who answered correctly and item number 9 about the number of FIFA 11+ program movements there were 6 trainers who answered correctly. Based on an average score of 50.2, the level of knowledge of the coach about FIFA 11+ is based on the FIFA 11+ program factors, in the “enough” category. This means that from the FIFA 11+ coach program factors there are still many who do not know about the FIFA 11 program. From the trainer’s research data, items that most trainers answer wrong are in item number 23.15.12 on program rules, FIFA 11+ training form and FIFA 11+ components, each of which has only a few trainers who can answer correctly.

Based on the results of direct interviews in the field about the implementation of the FIFA 11+ component, it was found that the majority of the trainers turned out to have carried out FIFA 11+ movements, although not as a complete training program, it could happen because FMARC was the organizing body that created the FIFA 11 program. + design according to the warming that is familiar among trainers, namely, warm-up and dynamic stretching. FMARC previously designed The 11 program, the first program before the FIFA 11+ program appeared, but FIFA 11+ created by FMARC encountered many problems, research conducted [10] about the level of compliance of coaches about the FIFA 11+ program in Norway by 90% does not exercise FIFA 11+ because the program is very difficult to receive among trainers, FIFA 11+ is a form of 10 types of strength training added with fair play, various types of training 11 namely The Bench, Sideways Bench, Hamstring, Cross-country Skiing, Chest-passing in Single-Leg Stance, Forward-Bend in Single-Leg Stance, Figure-of-Eight in Single-Leg Stance, Jumps Over a Line, Zig Zag Shuffle, Bounding and the eleventh is Fairplay. The trainer finds it difficult to accept this program because the trainer is confused which part of the exercise to apply to, what part of the heating, core, or cover. FMARC then redesigned the program to improve the movements in it so that the trainer could implement it, and introduced a new program that replaced The 11, the FIFA 11+ program.

This FIFA 11+ program is recommended to be done in the heating section so the coach is not confused about implementing it, as evidenced by 86.6% of trainers in Norway implementing the program, the high

level of compliance is suspected because the FIFA 11+ training is easy to do and the application time is clear, namely as a warm-up session. Program compliance has a correlation with a decrease in the incidence of injury [8]. The results of interviews about FIFA 11+ components obtained results for an average of 21.11% of the trainers doing the movement components and 78.89% did not do the movement components, this happened because of the strength exercise, power and balance, from the data above the components, were few. It was carried out was a single stance lag no trainers did, then sideways bench, only 11 applied and the bench had 22 people who applied, the three exercises were balance and strength training exercises, based on observations and experience of researchers, soccer players in Indonesia who were aged 14 years and over is very rare to do the movement, even though the movement is very useful for the player, which is to form muscle strength, by doing the above exercises the player can have a strong balance so that it does not fall easily when doing duels with opponents. So far, it is known that the Indonesian national team players when competing in international matches often we see players who do duels always lose and easily fall, maybe the players rarely do strength and balance movements. Research [11] suggests that players who exercise strength, stabilization and plyometrics will reduce the risk of sports injury.

Hamstring movements are rarely performed at a young age, research conducted [12] suggests that weakness in muscle strength is one of the causes of a hamstring injury. Other research conducted [12] that someone who has suffered a hamstring injury is a very high factor in the occurrence of the hamstring. Prevention of hamstring injuries can be done, one of them with Nordic hamstring training in the FIFA 11+ program, Nordic hamstring training. In the research conducted [3,10] suggested that the group given the Nordic hamstring training treatment the incidence of injury was lower than the control group who did not do the Nordic hamstring exercise the ratio was (20%: 66.67%). The Nordic hamstring has other advantages that can increase speed and strength. The FIFA 11+ program is not yet familiar and the prevention component of injury (strength, balance and plyometrics) has not been carried out. The role of the government and the Federation of associations is to socialize the FIFA 11+ program so that trainers and players can know and apply it. The best socialization can be done with workshops. Increasing knowledge through seminars, practical workshops and material giving, giving DVDs and posters makes it easy for trainers to understand the benefits of the exercise, after the trainer is aware of the importance of the exercise, the trainer will apply it during training [13,14]. The output of this training program for young/amateur grassroots trainers who can implement the FIFA 11+ training program the incidence of injury at a young age will decrease.

## Conclusions

In conclusion, although the level of knowledge of the trainer about the FIFA 11+ training program is in the “enough” category, the fact on the field turns out that the trainer has done the components of the FIFA 11+ movement at each training session.

## Conflicts of Interest

Data collection in this study is only based on the results of the questions given so that it is possible that there is an element of lack of objectivity in charging test. In addition, in the filling, it is obtained the nature of the respondent itself like honesty and fear in answering the respondent actually.

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