

The Effectiveness FIVE as Injury Prevention Program in Futsal Sports
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ABSTRACT

The research team held an internal meeting to evaluate the results of the research conducted in the first year (2021).

The meeting was held to follow up on the results of previous research and take further steps from this research in year 2. In general, the results of the meeting were:

1. The warm-up that has been created called FIVE can be carried out in a guided manner by the coaches of each team, but the warm-up duration that is too long (> 20 minutes) will make it difficult for futsal players to implement it regularly
2. There are too many warm-up movements and it is difficult to memorize
3. The majority of futsal players are amateur or recreational (more than 90% of the population) so a warm-up move is needed that is more suitable for them than the previous warm-up (FIVE).

The research team decided to follow up on the results of that internal meeting by developing a warm-up which will be named FIVE-R. A refinement of the previous exercise called FIVE.

We will restart the warm-up development process for recreational futsal players using the Knowledge Transfer Scheme (KTS) method. KTS consists of 5 steps consisting of:

Step 1 : Problem Statement

Step 2 : Evidence Description

Step 3 : Knowledge Transfer Group

Step 4 : Product Development

Step 5 : Evaluation using RE-AIM

STEP 1 & 2 : Problem Statement & Evidence Description

In the first and second steps we conducted a study on the application of warm-up to recreational futsal players, how much time they have to warm-up, and the reasons why they don't warm-up.

We collected data using a questionnaire on 190 recreational futsal players with an average age of 19.55 +7 years. We found the following data:

STEP 3: Knowledge Transfer Group

We conducted focus group discussions to summarize the problems that were obtained from STEP 1 & 2. These discussions were attended by cross-sectoral and expertise, namely:

1. Researchers representing academics
2. The recreational futsal trainer represents the user
3. The Sports Medicine Specialist represents the Sports Health Expert
4. Master of Sports Science lecturers represent physiology and exercise experts
5. AFC Futsal Instructors represent futsal experts (theoretically and technically)
6. Physical trainer for the Indonesian futsal national team representing futsal users and practitioners (technical)

The following are the results of the discussion obtained:

1. Warm up
 - a. The purpose of warming up in general is "to prepare the body from its usual state (resting state) to a condition ready to exercise"
 - b. The most important systems prepared are:
 - i. Cardiopulmonary system
 - ii. Motor system (neuromusculoskeletal)
 - c. So to facilitate this, the generic form of heating is:
 - i. Aerobic activity to increase heart rate and temperature
 - ii. Stretching activities (dynamic) and branch specific movements to prepare the motor system
 - iii. In Indonesian terms, the series of activities above is commonly called PEMAMANASAN. But from the term literature, it consists of 2 main things, namely: WARM-UP & (DYNAMIC) STRETCHING
2. The Phenomenon of Futsal Players Related to Warming Up
 - a. Lack of understanding of the basic components and benefits of warming up before exercise
 - b. The goal of futsal is fun, so we often neglect warming up ? the important thing is to start playing soon
 - c. In contrast to the competitive futsal population, recreational futsal players do not have a coach who can lead training sessions in good order
 - d. Lack of supporting equipment (cones, whistles, etc.). The majority only available 1 or 2 balls
 - e. Playing time is very limited time because it is rented on a commercial field. Consequences:
 - f. Warm-up that is "too long" will reduce the duration of the game
 - g. Players who arrive late want to play immediately, because warming up will reduce their duration in playing
3. Principles of warm-up development for recreational futsal players
 - a. Can a short warm-up be done but can facilitate the body in playing futsal (warm-up & stretching)? 5-7 minutes?
 - b. Done with "non-equipment" or with very minimal equipment
 - c. Can be done individually (facilitates late players)
 - d. Muscle activation and movement patterns according to futsal games (lower extremity muscles and trunk/core)
 - e. Movement is safe and easy to understand for the recreational player population

Step 4: Product Development.

The FGD team then developed a warm-up movement according to the development principles discussed in STEP 3. The basic movements were prepared by several members of the FGD team who were considered to have technical competence in futsal, then input and improvement were made by the entire team.

Here are the moves that have been developed and approved by a team of experts:

Step 5 : Evaluation

The team evaluates the movements that have been created to find out:

? Is the duration of the warm-up in accordance with the initial target set (

Kata Kunci: *Futsal, injury, Warm-up, Neuromuscular*