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Comparative study of flexibility and strength between attacker and defender players of soccer

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Abstract
The study aimed to compare the Flexibility and Strength between Attacker and Defender Players of Soccer of Amravati city. A total of hundred (100) subjects, comprising 50 defender and 50 attacker soccer players of Amravati city which were randomly selected for the study. The Subjects were selected by using simple random sampling. The age of the subjects ranged between 25-35 years. To analyze the Flexibility and Strength. Of the subjects of both the groups I.e. Attacker and Defender Players of Soccer group the following tests or equipments were used. Goniometer, to measure the flexibility. To measure the strength of leg and back leg back dynamometer. of both Attacker and Defender Players of Soccer. The analysis of data was done by using statistical technique 't'- test for finding the significance difference of Flexibility And Strength Between Attacker And Defender Players Of Soccer of Amravati city and the level of significance was set at 0.05 levels ($p<0.05$).

Keywords: strength, flexibility, attackers, defenders, soccer

Introduction
Physical fitness is the positive state of well-being allowing you enough strength and energy to participate in a full, active life-style of your choice. Physical fitness is the general capacity to adapt favorably to physical effort. Individuals are physically fit when they are able to meet both the usual and unusual demands of daily life, safely and effectively with undue stress or exhaustion. Physical fitness is the capacity to carry out reasonably well various forms of physical activities without being unduly tired and includes qualities important to the individual's health and well-being. The fit person is one who is free of limiting and debilitating ailments, who has the stamina and skill to do the day's work and who has sufficient reserve of energy not only to meet emergencies but also to participate in leisure time activities. Physical fitness is one phase of total fitness, and it may be used inter-changeably with motor fitness. Other phases of total fitness include social fitness, emotional fitness, mental fitness etc.

Flexibility
The range of movement in a joint or sequence of joints, is known as flexibility. For example, touching of fingers to toes while sitting or standing without bending knees**.**
Flexibility is generally defined a looseness or suppleness of the joint. More specially, flexibility is the range and the extent of the movement of a joint. Some individuals have a wide range of motion; others range of motion is fairly limited. Joint flexibility is controlled by a number of factors: the joint capsule contributes approximately 47 percent to the range of motion, the muscles contribute 41 percent, the tendons contribute 10 percent, and the skin contributes 2 percent. Because the joint capsule itself is rigid, the emphasis when attempting to increase or decrease flexibility is placed on the muscle and skin tissue. Stretching exercises enable these tissues to increase the range of the movement. Conversely, strengthening exercises may tighten up the muscles and tendons and can decrease the range of movement if not done correctly through the full range of motion.

Strength
Strength is perhaps the most important motor ability in sports because all movements in sports are caused by muscle contraction. Therefore, strength is a part and parcel of all-motor abilities, technical skills and tactical actions (Uppal'2000).The development of strength has almost certainly been the greatest factor to enhance performance in sports but it is not a new concern. Theories of the best way to build up strength date back at least to ancient Greek times, when Milo reputedly carried a bull calf every day from the day it was born until it was fully grown. As the bull grew and became heavier, Milo's strength levels improved to compensate, in a form of early progressive resistance training (Paish, 1998).

Agile Strength
The ability to decelerate, control and generate muscle force in a multiplanar environment. Traditional strength training focuses on producing a shortening muscle action to move a load through a single plane of motion; however, many tasks require the ability to move a mass through gravity in multiple planes of motion. Examples: Picking up and carrying a young child, laundry basket or duffle bag

Strength Endurance
The ability to maintain muscular contractions or a consistent level of muscle force for extended periods of time. Relies upon aerobic efficiency to supply oxygen and nutrients to the working muscles while removing metabolic waste. Examples:

An endurance event like a 10K, marathon or triathlon; doing yard work or other vigorous household chores; high volume bodybuilding-type training.

Explosive Strength

Produce a maximal amount of force in a minimal amount of time; muscle lengthening followed by rapid acceleration through the shortening phase. Focus is on the speed of movement through a range of motion (ROM). Explosive strength is based on the ability of the contractile element to rapidly generate tension, while power enhances the ability of elastic tissue to minimize the transition time from lengthening to shortening during the stretch-shorten cycle. Examples: Throwing a shot-put, Olympic lifts such as the snatch and clean-and-jerk; quickly moving out of the way of danger

The highest level of muscle force that can be produced, maximum strength is the ability of a muscle or specific group of muscles to recruit and engage all motor units to generate maximal tension against an external resistance. Requires high levels of neuromuscular efficiency to enhance both intra- and intermuscular coordination. Examples: Powerlifting, squat, deadlift and bench press and strongman competitions

Speed Strength

The maximal force capable of being produced during a high-speed movement; trained with either bodyweight or a minimal amount of resistance, allowing the movement to be executed as fast as possible. Examples: Throwing a baseball, swinging a golf club, running a sprint

Procedure and Methodology

A total of hundred (100) subjects were selected for the collection of data which include 50 defender and 50 attacker soccer players from the different clubs of Amravati city which were randomly selected for the study. The Subjects were selected by using simple random sampling. The age of the subjects ranged between 25-35 years.

Equipments Used For Collection of Data

The two equipments that were used for the collection of data were Goniometer. to measure the flexibility. To measure the strength of leg and back leg., back dynamometer. of both Attacker and Defender Players of Soccer players.

Table 1: Mean difference of strength between attackers and defenders soccer players of Amravati city.

Group	Mean	S.D.	M.D	S.E	Degree of Freedom	O.T	T
attackers	39.4	7.11	0.7	1.76	98	0.40	2.00
defenders	38.7	10.9					

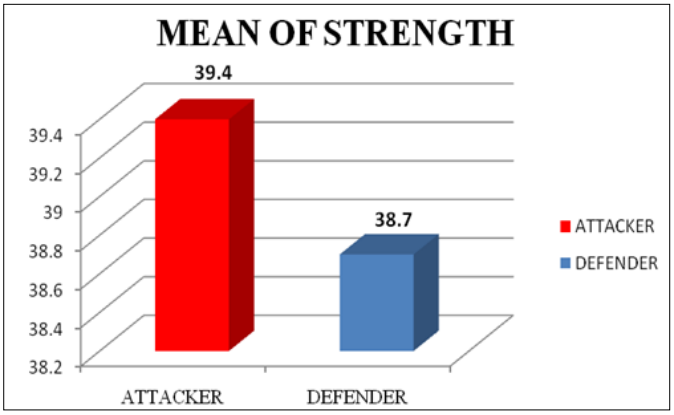

Fig 1: Graphical representation of mean difference in strength attackers and defenders soccer players of Amravati city

Table 2: Mean difference of flexibility between attackers and defender players of soccer of Amravati city.

Group	Mean	S.D.	S.E	Mean Difference	D.F	O.T	T
Attackers	67.36	7.71	2.33	1.72	98	0.736	2.00
Defenders	65.64	14.60					

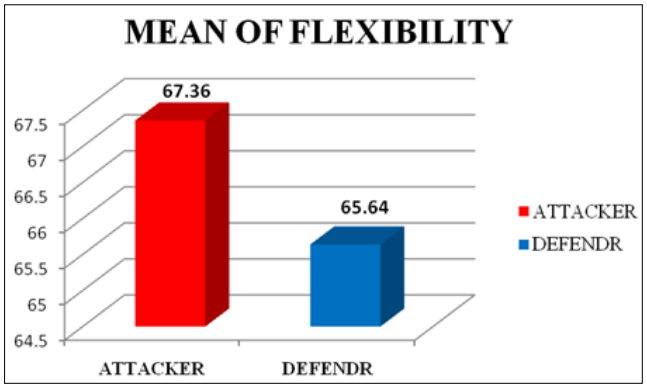

Fig 2: Graphical Representation of Mean difference of flexibility between attackers and defenders soccer players of Amravati city

Discussion of Hypothesis

In the beginning of this study it was hypothesized that there might be significant difference in strength and flexibility between attackers and defenders soccer players of Amravati city.

In overall numerical and statistical analysis the comparison of attackers and defenders soccer players of Amravati city, it is found that there is insignificant difference in both strength and flexibility attackers and defenders soccer players of Amravati. Therefore the hypothesis which the researcher has given is rejected.

Conclusion

Within the limitations of the study and from statistical analysis the following conclusion was drawn.

On the basis of the result drawn with the mentioned

methodology the following conclusion were drawn out. There was found insignificant difference in both physical variables strength and flexibility between attackers and defenders soccer players in football clubs of Amravati city. The study showed the insignificant difference among the mean of selected items of the groups. The conclusion of this research work May aware the players about their physical activities while performing any physical activity.

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