COMPARATIVE EFFECT OF VARIOUS PLAYING SURFACES ON THE ENDURANCE OF PLAYERS

DR. SANDEEP JAGANNATH JAGTAP

Director of Physical Education

Shri Sant Savta Mali Gramin Mahavidyalaya, Phulambri Dist. Chh. Sambhajinagar (MS) India

Abstract:

The aim of this investigation was to find out the Comparative effect of various playing surfaces on the Endurance of players. In the current investigation, thirty male students were selected at random by purposive sampling technique, from affiliated colleges of Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar. The age group was ranging from 18-25 years. The Motor Fitness components selected for the research work was endurance. The data of endurance was collected by 600 yard Run and Walk. After that, collected data was put into Microsoft Excel to develop Master Chart and then 'F' test, (ANOVA) was used for the statistical treatment. To test the hypothesis the level of significance was set at 0.05 level of confidence, after the statistical analysis of data related to the effect of various playing surfaces on the Endurance of players it was found that there is significant difference in players of 600 Yard Run and Walk on various surfaces. (Mud, Grass and Cement) Hence, the Researchers Pre-assumed hypothesis is accepted.

Keywords: Playing Surfaces, Endurance and Players.

Introduction:

Motor Fitness:

Motor fitness has been defined as a readings or preparedness for performances with special regard for big muscle activity without undue fatigue.

Meaning of Endurance:

Endurance like strength is a conditional ability; it is primarily determined by energy liberation processes. The ability of the human body to maintain a certain level of energy production forms the physiological basis of endurance Due to its physiological determinants, which can be relatively easily studied; it is an ability which has been studied in great detail and depth by the physiologists. Endurance is directly or indirectly of high status in all sports. It is however not easy to define endurance.

Surfaces in Sports:

The evidence in this guide is overall in nature and cannot be relied upon as professional advice regarding the design of, or marking out for, sporting facilities and playing areas. No

34

declaration is given as to the accuracy of any information contained in this leader and readers should not rely on its accuracy. Readers should obtain their own self-governing and professional advice in relation to their proposed sporting activity. For some 'specialist' single sport abilities it may simply be a question of selecting the ideal surface for that sport. Generally facilities are multi-use and can make the selection of the playing surface far more complex. There will be a need to consider carefully the range of sports, levels of play, extent of use and the objectives and proposed programming of the facility. Other factors consist of resources available to maintain the playing surface and funds available for replacement at the end of its life. Standards Australia produces two documents to assist in defining what surface is applicable to a particular sport.

Objectives:

The main purpose of this study was to find out the Comparative effect of various playing surfaces on the Endurance of players.

Hypothesis:

On the basis of literature searched and the researcher's own perception it was hypothesized that there would be significant difference of various playing surfaces on the Endurance of players of Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar.

Methodology:

Source of Data:

In the present study subjects were selected from affiliated colleges of Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar for the collection of data.

Selection of Subjects:

Thirty male subjects were selected for the collection of data. The age group was ranging from 18-25 years.

Sampling Method:

The subjects were being selected by using purposive sampling method.

Collection of Data:

For the collection of data, the subjects were given full administration of the tests which was used for the collection of data in the study. The data of endurance was collected by 600 yard Run and Walk test. After that collected data was put into Microsoft Excel to develop Master Chart and then 'F' test (ANOVA) was used for the statistical treatment.

Criterion measures:

Following are the criterion measures which were responsible for collection of data, to testing the hypothesis.

S. No	Variables	Test
01	Endurance	600 Yard Run and Walk

Level of Significance:

To test the hypothesis the level of significance was set at 0.05 level of confidence which was considered adequate and reliable for the purpose of this study.

Analysis of the Data:

After the collection of data from players of 600 Yard Run and Walk on various surfaces (Mud, Grass and Cement) of Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar, the raw data were converted into standard one by using a statistical technique 'F' test (ANOVA) for testing of hypothesis.

Table No. 1

Mean difference of Endurance on various Surfaces of Players

Name of Group	Mean
Mud-Surface	3.86
Grass-Surface	2.96
Cement-Surface	0.93

Table No. 1: indicates that the mean of the I group (Mud-Surface) is 3.86, Mean of the II group (Grass-Surface) is 2.96 and Mean of the III group (Cement-Surface) is 0.93. There is mean difference of Endurance on various surfaces of Players, whether is significant or not it can be shown by using special statistical technique 'F' test (ANOVA).

Graph-1
Graphical Representation of Mean difference of Endurance
on various Surfaces of Players
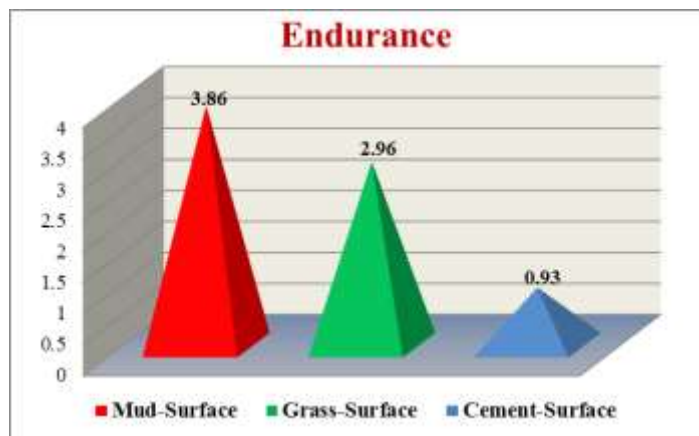
Table No. 2
Showing One Way Analysis of Variance (ANOVA) of Endurance
on various Surfaces of Players

Source of variance	df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	186.15	93.07	593.97	3.34
Within Groups	N-K 30-3=27	13.64	0.15		

Table No. 2: indicates that the value of Tabulated 'F' is 3.34 and the value of Calculated 'F' is 593.97 which is greater than tabulated 'F' at 0.05 level of confidence so that there is significant difference in players of 600 Yard Run and Walk on various surfaces (Mud, Grass and Cement), hence the researchers' Pre-assumed hypothesis is accepted.

Conclusion:

In the beginning of this study it was hypothesized that there would be a significant difference of various playing surfaces on the Endurance of players of Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar. but after the statistical analysis of data related to the players of 600 Yard Run and Walk on various surfaces it was found that there is significant difference in players of 600 Yard Run and Walk on various surfaces (Mud, Grass and

37

Cement), of Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar, Hence the Researchers Pre-assumed hypothesis is accepted.

References:

1. Anand, Shyam, Upkar's UGC NET/JRF/SLET Physical Education, (Agra: Upkar Prakashan), 2007.
2. Bucher, C. A, Foundation of Physical Education, St. Louis: The C. V. Mosby Co. 1960.
3. Clarke, H. Harison, Application of Measurement for Evaluation in Physical Education, Minneapolis Minnerotta: Berger Publishing Co., 1967.
4. Girard, et.al., "Effects of the Playing Surface on Plantar Pressures and Potential Injuries in Tennis". Br J Sports Med, Volume: 41, Issue: 11, 2007.
5. http//www.dsr.wa.gov.au/Sport Surfaces, 3.40.P.m. 12-10-2013.
6. Millet, G.P., "Effects of the Playing Surface on Plantar Pressures during the   First Serve in Tennis, International Journal of Sports Physiology and Performance, Volume: 5, Issue: 2, 2010.
7. Kansal, Devinder K., Textbook of Applied Measurement, Evaluation and Sports Selection, (New Delhi: Sports and Spiritual Science Publications), 2008.