

TO EVALUATE, DEVELOP AND STANDARDIZE THE COMPONENTS OF PHYSICAL FITNESS.

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Abstract:

Basketball is one of famous sport in world that used to play professionally on international level. Since some earlier years Basketball is being famous in our India. Basketball is a compact ground sport and men & women can be participating in this game. Basketball player shall have strong physical fitness filled with necessary components i.e. Speed, Strength, Accuracy, Swift etc are must for basketball either on compact stadium or open ground of tar or concrete surface.

INTRODUCTION

Basketball mostly plays worldwide because of its smooth rules and fielding style. This is a challenging and rapid game. Most of Indian players lead the basketball matches for international competitions. Indian Government is also providing various subsidiary grants for basketball game to explore the India fame on worldwide board of International sports. But our sport interest is having lack of scientific knowledge which effects on our sports activities. For the basketball, to select the right player whomsoever should be suffer through inventive & qualify criteria must, but there is no such measures are available to the current sport generation and trainers. Basketball game is as a question stands in front, because of it has professional stage on international sports championships.

But the researcher found very low amount of research on the basketball subject to lack awareness of strong physical fitness and stamina of basketball players that should have to retain for long time so the researcher considers the need of physical fitness and stamina level of players should known and be measured with proper tools, thus the researcher selected this subject of research for partly fulfilment of doctorate in Philosophy.

Today's modern age gives must importance to good physical fitness in any field, but prior to sports first, importance of good physique is not new but it was already known since ancient sport³. So present days gives more and must importance strong physical fitness along with practice which revealed by interview of senior former sportsmen. International teams in earlier time were having only coach who guides the players but today every team are ready with Fitness trainer, Physiotherapist, Psychiatrist etc support staff along with coach and it is realize that modern sports turned to a Super Specialization.

Basketball is also not in exception from super speculations, not only good dribbling, shooting, passing, defense skills cannot prove that the player is good one but the strong physical fitness is also important.

METHODS:

The following methodology has been selected:-

STATEMENT OF THE PROBLEM:

To evaluate, develop and standardize the components of physical fitness.

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HYPOTHESES:

- Evaluation Of physical fitness i.e. both hand power, endurance of stomach muscle, directional attitude, running speed, flexibility, explosive power of legs is necessary for Girls basketball players.
- Development and the standardization for the component for physical fitness i.e. both hand power, endurance of stomach muscle, directional attitude, running speed, flexibility, explosive power of legs is necessary for Girls basketball players.

PARTICIPANTS:

The study is conducted only for Girls basketball player of 15 to 19 age groups Selected from Maharashtra.

RESULTS:

Researcher has been adopted the data from many scientific study which was necessary according the improving and upgrading technology. Any result develop after proper analysis of data collected. Researcher has taken several tests to evaluate the skills of 700 basketball girls player during this study and made standard norms. Researcher wrote the explanation of each result of test one by one. Researcher took the help of Statistical Package for the Social Sciences to analyse the results during test of evaluation of physical fitness and basketball skills for standardize the norms alongwith numeric tools.1

Table No. 1.1
Descriptive characteristic Analysis through Right hand power, left hand power, seat-ups, 6 x 10 Mtr. Shuttle Run, 30 Mtr. Dash, Modified seat and reach & Vertical jump test

Postural Norms	Height	Right hand power	Left hand power (kg.)	Seatups (Nos)	60 x 10 mtr. Shuttle run (second)	30 Mtr. Dash (Second)	Modified seat & reach (cm)	Vertical Jump (cm.)
5	1.55	19	20	22	27.96	7.60	12	28
10	1.58	22	24	25	19.97	6.32	14	30
15	1.61	24	26	27	19.22	6.03	14	31
20	1.63	25	28	28	18.75	5.90	15	32
25	1.64	27	30	29	18.28	5.75	15	34
30	1.65	29	30	30	17.99	5.60	16	35
35	1.66	30	32	30	17.57	5.50	16	36
40	1.67	30	33	31	17.28	5.40	17	37
45	1.68	31	34	32	16.97	5.33	17	38
50	1.69	33	35	33	16.55	5.25	18	38
55	1.70	35	36	35	16.20	5.16	18	39
60	1.71	35	38	35	15.99	5.08	19	40
65	1.72	37	39	36	15.75	4.99	19	41
70	1.74	38	40	38	15.40	4.90	20	42
75	1.75	40	40	39	15.20	4.67	20	43
80	1.76	40	42	40	14.94	4.51	21	45
85	1.78	42	44	41	14.75	4.39	23	47
90	1.80	45	46	42	14.42	4.20	24	49
95	1.83	48	50	45	14.28	4.10	29	52
99	1.95	63	61	55	14.00	3.99	39	68

Those basketball girl player having height less than or 1.55 Mtr. will get 5 point and 99 points will be awarded to the basket ball girl players those having 1.95 Mtrs. or more.

Those basketball girl player having right hand power less than or 19 Kg. will get 5 point and 99 points will be awarded to the basket ball girl players those having 63 kg. right hand power or heigher.

Those basketball girl player having left hand power less than or 20 Kg. will get 5 point and 99

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points will be awarded to the basket ball girl players those having 61 kg. left hand power or heigher.

5 Marks will be given to those girls basketball player having 22 seatups of less and 99 marks for 55 seatups of more.

5 Marks will be given to those girls basketball player performed shuttle run in 27.96 second or less upto 14.00 second time and 99 marks for more than 28 second.

5 Marks will be given to those girls basketball player performed 30 Mtr. Dash in 7.60 second or less and 99 marks for more than 3.99 second.

5 Marks will be given to those girls basketball player performed 12 cm. modified seat & reach or less and 99 marks for more than 39 cm.

5 Marks will be given to those girls basketball player performed vertical jump up to 28 cm. or less and 99 marks for 68 cm or more.

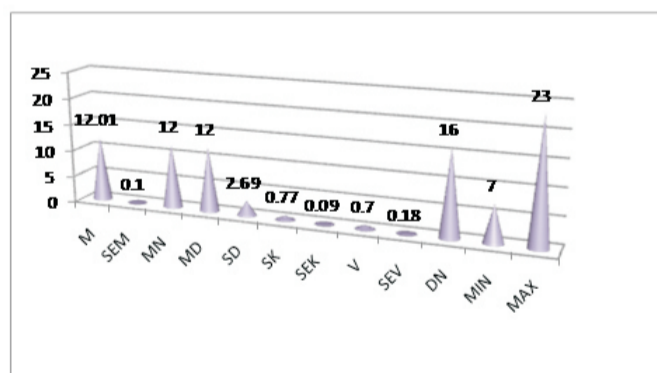
Table No. 1.2
Characteristic Analysis of Johnson field Goal Speed test (Nos)

Characteristic norms	Score
Numbers (N)	700
Mean (M)	12.01
Demerit or Standard error of Arithmatic mean(SEM)	0.10
Median (MN)	12.00
Mode (MD)	12.00
Standard deviation (SD)	2.69
Skewness (Sk)	0.77
Demerit of Skewness (SEk)	0.09
Variance (V)	0.70
Demerit of Variance (SEv)	0.18
Distribution (DN)	16.00
Less than (Min)	7.00
More than (Max)	23.00

EXPLANATION :

Table 4.23 shows scores of Johnson Field Goal Speed Test in number of Girl basketball players reveals Mean = 12.01, Standard error in mean = 0.10 standard deviation = 2.69 Skewness =0.77, Standard error in Skewness=0.09, Distribution = 16.00 minimal workforce = 7.00, & maximal = 23.00 found during the test.

Researcher observes thes Johnson Field Goal Speed Test of Girls basketball players by skewness amount (0.77), standard error in skewness (0.09) and veriance (0.70) alongwith standard error in veriance (0.18) those were common distribution and caused to make norms.



Graph 4.12
Johnson Field Goal Speed Test

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DISCUSSION:

Basketball is the game having 22 players team. Accurate measurement of Ground are 28 Mtr by length and 15 Mtr by width. 4 round plays in match of basketball and each round of 10 mtrs.

Basketball is persistent nature sport, there is no difference between attack and defense but both are continuously variable. The game only terminates when irregular action, consumption of time and interval errors occurs. Concern team may change its player.

Intensity of the basketball game is always vary as per variable strategy and tactics and guidelines by coach, all these are strongly related with intensity. If the style of game being change may effect on intensity of basketball. Playing basketball is based on appropriate sportsmanship, Skill level & Physical fitness. Game style also change when the circumstances of any injury occurred with players. Therefore study of physical movement of basketball game is must and to be considered the body components and its functions.

The game has same wave because of same movement used by all player while playing basketball on ground and can have smooth achievement of defense or attack to target as expected.

All basic moves used in basketball games and moves are vary as per situation and intensity of the game.

Macin's study shows the observations regarding movements structure of basketball game, he researched and classified said movements in 8 methods and moves appears changes after each 2 seconds. Game movements i.e. walking, running, long jumping, fast running, shuffle, jump performed many times as described in said study. All these actions became in medium intensity.

There are various body functions have been evaluated during the research and studied as the game intensity and its variable status.

Researcher noticed basketball players achieved 85% out of maximum heart rate (Cardiovascular rate) within $\frac{3}{4}$ time of total playtime and $\frac{1}{4}$ time they played on 95% highest and intensive heart rate. There are many differences found in heart rate during various research because the cardiac stage and status is depends on physical fitness level, playtime, game intensity, playground.

Heart rate reflect the absorbability power in which the absorbed oxygen level measured by researcher and he found 1.5 Ltr/Min. to maximum 2.4 Ltr/Min.

Some researchers tested the lactic acid level in blood sample of players which found less according to ability of player as well as game status.

Researcher found the Girls basketball player where they plays from specific spot change as their aerobic moves turns as need as game. Such difference found 36 ml./kg./Min. to 51 ml./kg/min. in common stage. Therefore researcher reached at the opinion that, there is a co-relation between high level aerobic capacity and strong sport workforce. Thus it revealed the Basketball workforce is depends on un-aerobic power and cardiovescularity power.

CONCLUSIONS :

Researched concludes after analyzed body component characteristically to Girls basketball players 15 to 19 age group from Maharashtra as herein below:

1. Mean of height was 1.65 cm. and minimal height 1.28 cm. that the maximal height found 1.95 cm that distributed by 0.67 cm. National level sport person shall have appropriate height of 1.69 cm.
2. Weight Mean was 55.93 kg by lowest weight 31 kg and 115 kg. maximum in which the distribution found 83 kg.
3. BMI Mean found 19.46, minimal 12.98 and maximal 46 BMI found by distribution of 33.27 percent.
4. Fat percent found 16.25 Mean by which the lowest (min) 5.04 and maximum 39.30 per cent by distributing 34.26%
5. Researched concludes after analyzed physical fitness characteristically to Girls basketball players 15 to 19 age group from Maharashtra as herein below :
Mean for right hand power found 33.00 kg and minimal power 15.00 kg that the maximal 63 kg and distribution 28 kg. of right hand power.

SUGGESTIONS & RECOMENDATIONS :

1. Researcher recommends that, use the standardization developed by present researcher while selecting players for National Matches by Basketball Association.
2. Government Teacher from Maharashtra Institutions may adapt the standardizations for selection of

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national basketball team.

3. Present research did not study the workforce, hence it will be helpful for further research subject to workforce by new researcher.

4. Maharashtra State Basketball Association has to evaluate the skill and physical fitness level of basketball players by adapting present studies.

5. Study shall continue for further research on workforce of players by adapting the norms of present study.

6. John's basketball passing test used for present study. This test refers 40 feet distance from flat wall. The researcher suggests that this 40 feet distance is too long by comparing the age 15 to 19 group player, hence the research should be carried on for.

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