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Comparison of Health Related Physical Fitness among 13 to 15 Years Old Rural Boys of North Karnataka

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Abstract:- Physical fitness has multidimensional structure fitness and it is a key indicator of health among children and adolescents it can predict the health status in the later phases of an individual's life. The researcher intended to compare the health related physical fitness among 13 to 15 years rural boys. The Research Design adopted for this study was non-experimental descriptive research design. The researcher selected 750 subjects by using simple random sampling technique from rural high school, 250 boy's each for 13,14 and 15 years were randomly selected from the different schools of rural areas as subjects. 5 variables were selected for the present study which presents health related physical fitness – Cardio-pulmonary endurance, Muscular strength, Muscular endurance, flexibility & skin fold measurement. The results of the study data shown height, body weight and BMI of 13 to 15 years old rural boys reveals that the mean height was 153.8 cms ± 5.2 (13 years), 158.82 ± 5.1(14 years) and 162.4 ± 7.2(15 years).The mean body weight and standard deviation of 13 to 15 years old rural boys was 40.26 ±6.12 (13 years), 46.52 ±6.32(14 years) and 48.36 ± 7.26 (15 years). The mean BMI and standard deviation was 16.98 ± 1.28 (13 years), 17.26± 1.16 (14 years) and 17.92 ± 1.46 (15 years). A significant difference was found in all the areas of Health related physical fitness such as 1 mile run, pull up i.e vertical jump, sit up, sit and reach and skin fold measurement. The study concluded that formulate appropriate physical education programme for high school students for maintaining minimum physical fitness and good health

I. INTRODUCTION

Fitness in children can power them for a healthy future. Health-related physical fitness includes those aspects of physiological functions that offer protection from diseases resulting from a regular life style[1]. It can be improved and maintained through a regular programme of physical activity that adheres to the principles of exercise. Specific components of health related physical fitness include cardiovascular fitness, muscular strength and endurance, flexibility of the lower back and body composition.[2] Physical fitness is a multi-faceted continuum extending from birth to death[3]. Fundamental motor skills lay the foundations of basic and advanced sports skills. School activities improve fine motor abilities[4].

II. SIGNIFICANCE OF STUDY

Health and physical fitness have a vital role in the life of school going children. The progress of the Nation lies in the hands of the children, who are needed to be healthy, strong and physically fit.

- This study may be help to explore the health related physical fitness status of high school boys between 13 and 15 years of age.
- The result of this study helps to formulate appropriate physical education programme for high school students for maintaining minimum physical fitness and good health
- Further this study helps in choosing appropriate /suitable physical activities for the development of healthy physical fitness components at various stages of the results of school students.
- The study recommends the standard of fitness in relation to their performance and also helps the parents to know about the fitness of their children throughout the school education.
- Physical inactivity is a key determinant of health outcomes across the life span. A lack of activity increases the risk of heart disease, colon and breast cancer, diabetes mellitus, hypertension, osteoporosis, anxiety and depression, and other diseases.
- Physical activity is essential for the development of wholesome personality of a child which would depend upon the opportunities provided for wholesome development of the mental, physical, social and spiritual aspects.

❖ *Statement Of The Problem:*

"Comparison of health related physical fitness among 13 to 15 years old rural boys of North Karnataka."

❖ *Objectives Of The Study*

- To assess the health related physical fitness among 13 to 15 years old rural boys of North Karnataka.
- To compare the health related physical fitness among 13 to 15 years old rural boys of North Karnataka.
- To find out the association between the health related physical fitness among 13 to 15 years old rural boys of North Karnataka with their selected socio demographic variables.

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❖ *Hypotheses*

H1: There would be a significant difference between health related physical fitness among boys of 13 Yrs 14 Yrs & 15 Yrs boys

H2: There would be a significant association between the health related physical fitness among boys with their selected socio-demographic variables.

❖ *Delimitations*

- The study is delimited to rural areas
- The study is further delimited to 750 high school boys from rural areas
- The study is delimited to 13, 14 and 15 Yrs boys only
- The study is delimited to health related physical fitness variables such as

- Cardio-vascular endurance
- Muscular strength
- Muscular endurance
- Flexibility
- Body composition

❖ *Limitations:*

- No special motivational technique will be used during the administration of test to obtain optimum results from the subjects
- The life style routines and other factors such as food habit, physical activity, genetic factors and climate conditions are not under the control of scholar.

➢ *Selected Variables*

5 variables were selected for the present study which presents health related physical fitness – Cardio-pulmonary endurance, Muscular strength, Muscular endurance, flexibility & skin fold measurement

III. RESEARCH METHODOLOGY

➢ *Research Approach*

A descriptive approach was used in the present study, where it assesses the health related physical fitness of rural boys.

➢ *Research Design*

The Research Design adopted for this study was non-experimental descriptive research design.

➢ *Population*

The population for the present study was 13 to 15 years old rural boys of North Karnataka.

- *Accessible Population*

In the present study accessible population was 13 to 15 years old rural boys of North Karnataka.

- *Target Population*

In the present study accessible population was school boys Bagalkot.

➢ *Sample*

Sample is a subset of population, selected to represent the population. In the present study sample consists of 13 to 15 years old rural boys of Bagalkot.

➢ *Sampling Technique*

The North Karnataka has been divided into districts, and then by random sampling method Bagalkot district has been selected. Now certain rural areas of Bagalkot Taluka City has been listed out like – Muchakhandi, Seemikeri, Haveli, Gaddanakeri & Sikkeri. By following the random sampling technique Muchakandi Rural area has been selected for the present study. After making a survey a list of Boys aged between 13 to 15 years was prepared by an investigator.

➢ *Sample Size*

A total of 750 school boys were selected (N=75).

➢ *Setting of the Study*

The present study was conducted in Muchakhandi rural area of Bagalkot District.

➢ *Method of Data Collection*

After clear instructions given by investigator, consent has been taken by all 750 boys. Then data has been collected as following. Cardio-respiratory endurance is tested by 1 mile run, muscular strength by vertical jump, muscular endurance by sit up, flexibility is by sit and reach and body composition is by skin fold measurement – sub scapular and supra-iliac.

➢ *The 5 Variables Were Observed Y The Following Methods:*

- *Cardio Respiratory Endurance*: Was measured by **1 MILE RUN TEST.**
- *Muscular Strength:* Was measured by **VERTICAL JUMP.**
- *Muscular Endurance***:** Was measured by a **SIT UP TEST.**
- *Flexibility*: Was measured by a **SIT AND REACH TEST.**
- *Skin Fold Measurement***: SUB SCAPULAR SKIN FOLD MEASUREMENT.**
- *Suprailiac Skin Fold Measurement***:** Researcher pointed out the intersection of a line joining the front part of the iliac crest and anterior part of the auxilla and the horizontal line at the level of the iliac crest.

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➢ *Tool Used In The Present Study*

1. *Mile Run Test***:** Marker cones & Stop watch
2. *Vertical Jump***:** Measuring tape, chalk for marking the wall
3. *Sit Up Test***:** Stop watch
4. *Sit & Reach Test***:** Sit & reach box
5. *Skin Fold Measurement:* Skin-fold calipers

➢ *Statistical Techniques:*

- The data was analyzed by using both descriptive and inferential statistics. **Mean, standard deviation and paired t tests and A**NOVA were used to find out & to compare the health related physical fitness among 13 - 15 Yrs rural boys.
- **Chi square test** was used to find association between health related physical fitness scores with their selected socio-demographic variables.

IV. RESULTS OF THE STUDY

The data regarding height, body weight and BMI of 13 to 15 years old rural boys reveals that the mean height was 153.8 cms ± 5.2 (13 years), 158.82 ± 5.1(14 years) and 162.4 ± 7.2(15 years).

The mean body weight and standard deviation of 13 to 15 years old rural boys was 40.26 ±6.12 (13 years), 46.52 ±6.32(14 years) and 48.36 ± 7.26 (15 years). The mean BMI and standard deviation was 16.98 ± 1.28 (13 years), 17.26± 1.16 (14 years) and 17.92 ± 1.46 (15 years).

In one mile run test the mean time taken by 13 years old boys was 8.64 ± 3.56 minutes, 8.22 ± 4.12 minutes by 14 years boys and 7.86 ± 3.21 minutes by 15 years old rural boys. .

In pull up test the mean centimeters reached by 13 years old boys was 28.36 ± 4.82 centimeters, 30.2 ± 4.68 centimeters by 14 years boys and 32.48 ± 5.21 centimeters by 15 years old rural boys.

In sit up test the mean number of repetitions done by 13 years old boys was 19.42 ± 7.92 repetitions, 22.64 ± 8.34 repetitions by 14 years boys and 24.32 ± 6.5 repetitions by 15 years old rural boys. . In sit and reach test the mean centimeters reached by 13 years old boys was 0.46 ± 7.45 centimeters, 1.24 ± 8.65 centimeters by 14 years boys and 1.86 ± 6.45 centimeters by 15 years old rural boys.

Comparison of health related physical fitness among 13 years and 14 years rural boys. There was a significant difference found in one mile run test with calculated t value 2.13 (P< 0.031), Vertical jump test t=2.62(P<0.043), Sit up test t= 4.18 (P< 0.026) and sit and reach test t= 8.34 (P< 0.015).

Comparison of health related physical fitness among 13 years and 15 years rural boys. There was a significant difference found in one mile run test with calculated t value 4.26 (P< 0.011), Vertical jump test t = 8.54(P<0.013), Sit up test t= 9.29 (P< 0.016) and sit and reach test t = 9.76 (P< 0.008).

Comparison of health related physical fitness among 14 years and 15 years rural boys. There was a significant difference found in one mile run test with calculated t/ value 2.39 (P< 0.032), pull up test t = 2.04(P<0.041), Sit up test t= 3.18 (P< 0.018) and sit and reach test t = 3.02 (P< 0.013).

Comparison of health related physical fitness measures among 13 to 15 years' old rural boys. A significant difference was found in all the areas of Health related physical fitness. In one mile run the calculated variance was 4.21 (P< 0.031), 3.64 for vertical jump (P< 0.043), 4.16 for sit up test (P< 0.026), and 6.17 for sit and reach test WITH p<0.015.

Comparison body composition among 13 years and 14 years rural boys. There was a significant difference found in Sub scapular skin fold thickness with calculated t value 3.57 (P< 0.016) and Triceps skin fold thickness t = 2.98 (P< 0.012).

Comparison body composition among 13 years and 15 years rural boys. There was a significant difference found in Sub scapular skin fold thickness with calculated t value 7.38 (P< 0.029) and Triceps skin fold thickness t = 8.62 (P< 0.018).

Comparison of body composition among 14 years to 15 years rural boys. There was a significant difference found in Sub scapular skin fold thickness with calculated t value 4.26 (P< 0.022) and Triceps skin fold thickness t = 4.35 (P< 0.032).

Comparison of body composition of 13 to 15 years' old rural boys. A significant difference was found in skin fold thickness among all the 3 groups. For Sub scapular skin fold thickness the calculated variance was 4.92 (P< 0.014) and for Triceps skin fold thickness the calculated value was 3.96 (P<0.041). Hence there was significant difference observed between sub-scapular skin fold thickness and triceps skin fold thickness among all the three groups of 13 to 15 years' old rural boys.

V. CONCLUSION

The study recommends the standard of fitness in relation to their performance and this study results helps the parents to know about the fitness of their children The study results shown the linear development variations of health related physical fitness among school boys of rural between different age group of 13 and 15 years.

REFERENCES

[1]. Kelly A. Brown, Dilip R. Patel and Daphne Darmawan Participation in sports in relation to adolescent growth and development. Transl Pediatr. 2017 Jul; 6(3): 150–159. doi: 10.21037/tp.2017.04.03
[2]. Ahn S, Fedewa AL. A meta-analysis of the relationship between children's physical activity and mental health. Journal of Pediatric Psychology. 2011;36(4):385–397.
[3]. Gabbard, Carl P. (2008). LIFELONG MOTOR DEVELOPMENT (5th ed). San Francisco: Pearson.
[4]. Jane E. Clark (2007): On the Problem of Motor Skill Development, Journal of Physical Education, Recreation & Dance, 78:5, 39-44
[5]. Lubans, D. R., Morgan, P. J., Cliff, D. P., Barnett, L. M., & Okely, A. D. (2010). Fundamental movement skills in children and adolescents. Sport Medicine, 40(12), 1019–1035.
[6]. Allender S, Cowburn GG, Foster C. Understanding participation in sport and physical activity among children and adults: A review of qualitative studies. Health Education Research. 2006;21(6):826–835.