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Evaluation of Bal-Parikshan according to Harvard step test

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Abstract

Acharya Charak has elaborately given importance to *Bal-Parikshan* in *Dashavidha-Pariksha* of *Vimansthan*. According to him *Bala* can be measured by *Vyayamshakti*. He has given some glimpse to measure *Bala* with reference to *Vyayam*.

Now a days in modern science measurement of Fitness and a person's ability to recover after a strenuous exercise can be measured by Harvard step test and it is considered as one type of *Vyayam*(Exercise). This test was conducted for 1st year BAMS students and classification of fitness according to fatigue index is presented in the full paper.

Key words: *Bala*, The Power, *Parikshan* (Examination), Harvard step test, one of the fitness test

Introduction:

4 *Purushartha* of Human life mentioned in *Ayurved*, these are *Dharma*, *Artha*, *Kama*, *Moksha* ⁽¹⁾ Achievement of these four *purusharth* is main aim of human life and can be achieved when he becomes fit mentally as well as physically. *Ayurved* describes definition of healthy person is as

समदोषा समाग्निश्च समधातु मलक्रियाः ।

प्रसन्न आत्मेन्द्रिय यार्थ मनः स्वस्थ

इत्यभिधीयते ॥

there are 2 aims of *Ayurved* one is to keep healthy person as healthy and another to make diseased person healthy.(3) *Bala* plays very important role in healthy state of a person. Hence,

Acharya Charak given 10 methods to investigate *Bala* of diseased persons (4) and *Vyayamshakti* is one of the investigations among these 10 which is related to human *Bala* (5). *Bala* means ability of our body to bear efforts and daily task which is essential for daily work. (6) *Bala* divided into 3 types, (7)

A. *Sahaj* acquired by birth

B. *Kalaj bala* acquired by *kala* i.e.time

C. *Yuktikrut Bala* acquired by *Vyayam* i.e.exercise

Bala depends upon: *Desh*, *kala*, *Linga*, *Vaya*, *Dhatusarata*, *Agni*, *Prakruti* and *Kula*.(8) these *bala* has been examined by *Vyayamshakti* as described by Acharya charak in *Viman sthan* i.e. *sharira Ayasen karma*, *Bharavahan shakti*,(9) the quantity of *vyayam* suggested is half of the *Bala* of each individual.(10) the sign of this is respiration by mouth, thirst, sweating at forehead, nose, joints and axillaries region.(11) If *Bala* of individual is better than these signs appears late and the person become normal early stage after stopping the exercise.

Modern Science uses Harvard step test to know the *Bala* i.e. strength of the person. The Harvard step test is a good measurement tool to see the person's ability to recover after strenuous exercise. This test was developed by Lucien Orouha nd his associates in 1943.(12)

Aims and Objectives

- **Aim:** Evaluation of *Bala Parikshan* by Harvard step test

• Objective:

- To arrange Harvard step test for *Bala Parikshan* of an Individual
- Classification of fitness according to fatigue index
- To check the status of health of Individual according to fatigue index
- Evaluation of *Bala Parikshan*

Material and Methods

1. **Place of the Study:** Dept of *Kriyasharira*, *S C Mutha Aryangla Vaidyak Mahavidyalaya*, *Satara*

2. **Period:** Dec 2017 to Jan 2017

3.Inclusion Criteria:

- age group: 18 to 21 yrs
- Number of individuals : fifty one
- healthy individuals who are doing their routine work easily

4. Exclusion criteria:

Individuals suffering from other diseases and students from other classes

5. **Area:** College Premises

6. **Sampling Methods:** students of 1st BAMS 2012 (2016 /17 batch)

Methods.(13)

- for boys students steps up and down on 20 inch bench 30 times for Five minutes
- for girls students steps up and down on 18 inch bench 30 times for 4 minutes
- Use metronome to fix the rate

- If student gets exhausted earlier the stop the steps
- Count the duration of the test
- Asks the students to sit immediately
- Count the pulse after the interval of

1 to 1.5 minute: A

2 to 2.5 minutes: B

3 to 3.5 minutes: C

- Calculate the Fatigue Index:
Fatigue index = Duration of exercise in second * 100 / 2 *(sum of Pulse A , B, C)

Assessment

- The detail examination paper has been made as per the method of examination
- The Harvard step test has been done as per examination paper by using above mentioned equipments

Table1 Classification of fitness index according to Index

S.No.	Index	Fitness
1	Below 55	Poor
2	55 to 64	Low average
3	65 to 79	Average
4	80 to 89	Good
5	90 and above	Excellent

Results

1. Participants: 51 students of 1st BAMS batch
2. Boys:19
3. Girls:32
4. Age group: 18 to 21
5. Profession: education
6. Test performance: all participants completed the test
7. Poor fitness:00
8. Low average fitness: girl 01
9. Average fitness: girls 22, boys 03
10. Good fitness: girls 08 boys: 03
11. Excellent fitness: boys: 13, girls 01
12. No anyone boy having poor or low average fitness
13. No any girl having poor fitness
14. Compare to girls boys fitness is seems to be well

Discussion and Conclusion

- Harvard step test would be a useful tool to calculate *Bala* or strength of an individual
- Health status of an individual has been identified by this method
- *Ayurvedic* terms *Bala parikshan*, *Vyayamshakti* has been well elaborated by this test
- This test is helpful to improve the health of an individual

- If the area and sample increases then it is beneficial to develop health status of an individual of society from poor to excellent health
- It is concluded that *Bala parikshan* can be done by modern Harvard step test
- From the above discussion it is concluded that the above study is helpful to keep the person healthy and diseased free with the help of *Ayurved* as well as Modern Science.

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