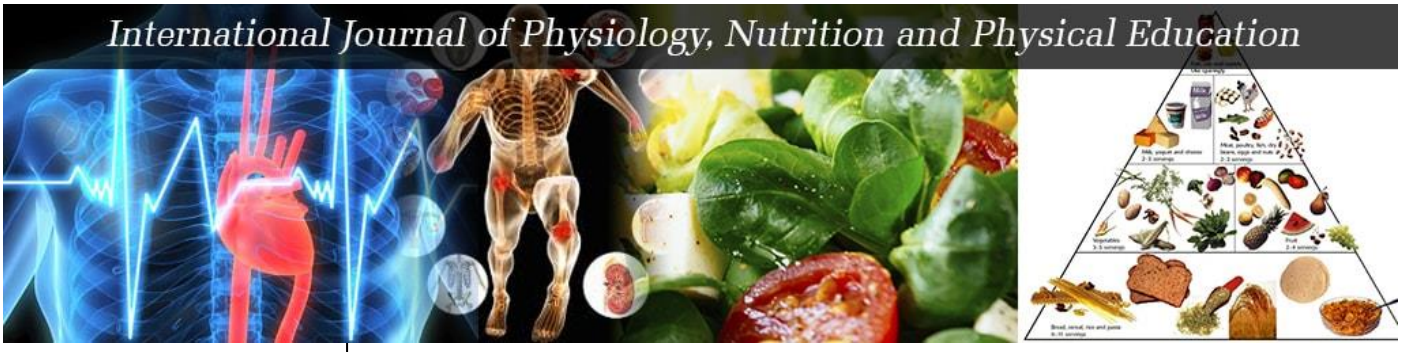

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Effect of spinach on hemoglobin level of physical education students of Kashmir and other state

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Abstract
The present study was undertaken with a view to see the comparison effect of spinach juice on hemoglobin percentage of Kashmir and other state students. For the present study twenty (20) male subjects (10 from Kashmir and 10 from other state) of M.P.Ed students were selected randomly from Dr. Babasaheb Nadurkar College of Physical Education, Yavatmal Their age ranges varied from 22 to 28 years. All the subjects belong to different socio-economic conditions. After the selection of the subjects researcher administered the pre-test to measure the hemoglobin percentage of Kashmir and other state physical education students. All the variables were tested and measured through standard procedure with the help of expert and under the direct supervision of the experimenter. To find out the Effect of Spinach on Hemoglobin Percentage of Physical Education Students belongs to Kashmir and other State researcher provided spinach juice both the group 100 ml. per day to each subject for 45 days. After the 45 days researcher again administered hemoglobin test both the groups and data were collected through standard procedures with the help of doctors and direct supervision of the experimenter. To see any significant differences 't' test was used for statistical analysis. It was concluded that spinach juice effect on hemoglobin percentage of Kashmir students are more, this might be due to the fact that Kashmir students live in areas of high altitude.

Keywords: Physical students, HB, Spinach juice

Introduction
The increase of hemoglobin concentration can be estimated by evaluating the volume of red cells and hemoglobin counts. The functioning of the human body is very complex and it involves mechanical laws as well as psychological principles. How effectively and efficiently the body performs depend mostly upon its mechanical aspects as they are directly related to performance of activities, indirectly of course, the mental out look is behind all its functioning. Human body is a single structure but it is made up of billions of smaller structures of whole major kinds; such as cells, Tissues, Organs and systems. Systems are most complex of the component units of the human body. A system is a organization of varying numbers and kinds of organs that together they can perform complex functions for the body. The main system in the human body is the circulatory system which carries oxygen in various parts of the body through the circulation of blood. Various training programme increase the oxygen carrying capacity of lungs of individuals. The increase of oxygen carrying capacity is accepted due to the increase of concentration of hemoglobin level in the RBC of blood.

Hemoglobin is present in red blood cells and is an essential chemical which carries oxygen from lungs to other parts of the body. It is metalloprotein having quarternary structure which contains iron and performs the important function of transporting oxygen via RBCs in blood in mammals as well as other animals. It also full fills different effect modulation and gas transport duties, although which differ from species to species and most probably is altogether different in invertebrates. Some oxygen is dissolved in blood while some bound to hemoglobin. But the more amount of oxygen molecules bounded to hemoglobin, the more oxygen in reached to every part of the body. Hence this pack of chemicals known as hemoglobin performs the most vital duty of binding oxygen to it so that it reaches each and every body part. Hemoglobin is the iron-containing molecule in red blood cells that transport oxygen from the lungs to the peripheral tissues of the body. It is responsible for the red color of red blood cells. Hemoglobin tightly binds oxygen from the lungs, carries it from the lungs to the peripheral tissues of the

body; after unloading oxygen at the peripheral tissues, it binds carbon dioxides and return to the lungs to be exhaled. It is composed of two protein subunits; alpha and beta. Hemoglobin requires both subunits in order to function properly. Disorders can result from abnormalities in either subunit. Abnormal Hemoglobin structure or function can result in a variety disorders including sickle cell and thalassemia. Levels of Hemoglobin may be low because the number of red blood cells is low, or we all are taught about the important function of hemoglobin in our body. Anemia is a very common blood condition which is associated with the decrease in amount of hemoglobin and very predominant in women. The hemoglobin percentage required by the body of both women and men is different and hence when the blood tests reveal less hemoglobin percentage, the person is said to be anemic. Apart from this there are various other functions and activities related to this component which is also known to give our blood the red color. Studies reveal that each red blood cell (RBC) comprises of around 280 million hemoglobin molecules. The present study were designed to comparison effect of spinach juice on hemoglobin percentage of Kashmir and other state students.

Methodology

For the present study 20 (twenty) male subjects (10 from Kashmir and 10 from other state) selected randomly from M.P.Ed course of Dr. Babasaheb Nandurkar College of Physical Education, Yavatmal (Maharashtra). Their age ranged from 22 to 28 years. For the present study the researcher wanted to measures hemoglobin level of the selected subjects with the help of Sahli's Hemoglobinometer and it will be measure in gm/dl.

For the present study twenty (20) male subjects (10 subjects from Kashmir and 10 subjects from other state) were selected randomly from M.P.Ed course of Dr. Babasaheb Nandurkar College of Physical Education, Yavatmal. Their age ranged from 22 to 28 years. Two groups are treated as experimental. The experimental groups underwent to practice spinach juice (100 gm), for 6 days in a week for the period of 45 days under direct supervision of the experimenter.

To find out the effect of spinach juice on hemoglobin percentage the data were collected through administration of hemoglobin test on selected variables before and after the training programme of 45 days and data were collected through standard procedure.

Results

All the data pertaining to the present study were examined by employed 't' test to find out whether any significance difference between the Kashmir and other state physical education students on hemoglobin percentage. The following terms were used for all the subsequent tables for elaborations.

K.S – Kashmir student, O.S.S- Other state students, N – Number of subjects in group, M – Mean score, MD – Mean difference, SD – Standard deviation of test score, 't' – 't' value, H_o –Null hypothesis, df – degree of freedom, 't' follows t distribution with (N_1+ N_2 -2) in .05 level of significance.

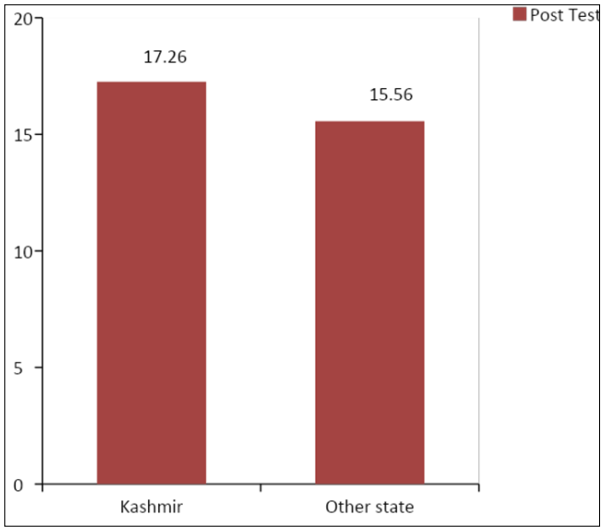
Table 1: Mean differences of hemoglobin percentage between the post test of Kashmir and other state students (gm/dl)

Sr. No.	Group	Test	N	Mean	SD	MD	't' value
1	Kashmir	Post test	10	17.26	0.46	1.7	8.5*
	Other state	Post test	10	15.56	0.45		

*Significance at .05 level, Tabulated 't'value of df (18) =2.10

The above table -2 revealed that the mean of Kashmir and other state students on hemoglobin are 17.26 and 15.56 and their calculated 't' value is 8.5 which was greater than that of tabulated value 2.10 (18 df.) at 0.05 level of confidence. Hence, this table indicated that there was significant difference found between the Kashmir and other state students of hemoglobin percentage. It was also indicated that the students of Kashmir have increase more hemoglobin percentage than the other state physical education students. Hence, the null hypothesis is rejected.

The mean values of Kashmir and other state students on hemoglobin percentage have been graphically presented in the Graph.



Graph 1: Comparison of mean differences of post test between the Kashmir and other state students on hemoglobin percentage.

Discussion

On the basis of the results and findings it was concluded that there was no significance differences found between the pre test of Kashmir and other state students on hemoglobin percentage. It is indicated that there hemoglobin level were same before training. In case of post test there was significance differences found between the post test of Kashmir and other state students on hemoglobin percentage. It might be reason that spinach juice effect on hemoglobin percentage on Kashmir students in comparison of other state students. It is indicated that spinach juice progressively influence on blood hemoglobin of Kashmir students more than the other state physical education students. It might be due to the fact that physiological function of the students of Kashmir may differ than the other state students.

To find out the Effect of Spinach on Hemoglobin Percentage of Physical Education Students belongs to Kashmir and other State researcher provided spinach juice both the group 100 ml. per day to each subject for 45 days. After the 45 days researcher again administered hemoglobin test both the groups and data were collected through standard procedures with the help of doctors and direct supervision of the experimenter. To see any significant differences 't' test was used for statistical analysis.

On the basis of the results and findings it was concluded that there was no significance differences found between the pre test of Kashmir and other state students on hemoglobin percentage. In case of post test there was significance differences found between the post test of Kashmir and other state students on hemoglobin percentage. It was also concluded that spinach juice effect on hemoglobin percentage

on Kashmir students in comparison of other state physical education students. It was also concluded that the physiological function of both the students are different this might be due to the fact significance difference found in hemoglobin percentage of Kashmir and other state physical education students. It was also concluded that spinach juice effect on hemoglobin percentage of Kashmir students are more this might be due to the fact that Kashmir students live in areas of high altitude.

Conclusion

It was also concluded that spinach juice effect on hemoglobin percentage on Kashmir students in comparison of other state physical education students. It was also concluded that the physiological function of both the students are different this might be due to the fact significance difference found in hemoglobin percentage of Kashmir and other state physical education students.

References

1. Aggarwal. Biology, Edition, New Delhi, 2010-11.
2. Akande AR *et al*. Effect of soya bean diet preparations on some hematological and biochemical indices in the ratalada, African Journal of Biomedical Research. 2004; 7:71-74. ISSN 1119-5096 © Ibadan.
3. Barker RJ *et al*. Effect of Low Glycemic Load Diet on Glycated Hemoglobin (HbA1c) in Poorly-Controlled Diabetes Patients Global Journal of Health Science, Canada, 2012, 4(1).
4. Deniel Gallaher D *et al*., The effect of dietary fiber type on glyeated hemoglobin and hypertrophy in the adult diabetic patients, Department of food and Nutrition, Fargo, USA, 2012.
5. Farber MO *et al*. Effect of decreased O_2 affinity of hemoglobin on work performance during exercise in healthy humans, Proc. Natl. Acad. Sci. USA, 2007.
6. Ganggalanzi. The lung function, hemoglobin concentration and arterial oxygen saturation among 9-10 year old native Tibetan and Han Chinese children living at 3700 meters and 4300meters above sea level in Tibet, Master of Philosophy Degree in International Community Health, University of Oslo, 2008.
7. Garvican LA *et al*. The contribution of haemoglobin mass to increases in cycling performance induced by simulated LHTL, Sports Science Sports Medicine, Canberra, ACT, 2616, Australia, 2011.
8. Joseph C *et al*. Effect of dietary protein, fat and energy on blood hemoglobin and hemtocrit in the rat. Department of nutrition, Chapel, 2013.
9. Kamada C *et al*. Effects of total and green vegetable intakes on glycated hemoglobin A 1c and triglycerides in elderly patients with type 2 diabetes mellitus Faculty of Human Life Science, Shikoku University, Tokushima, Japan.
10. Khan S, Rupp J. Effect of exercise conditioning, diet, and drug therapy on glycosylated hemoglobin levels in type 2 (NIDDM) diabetics Department of Kinesiology and Health Georgia State University, Atlanta, USA.
11. KSH Birbal Singh *et al*. Effect of selected training programme on the hemoglobin level of athlete, Research Bi-Annual for movement, Amravati, 2010, 26(2).
12. Pradeep. A Text Book of Biology, Edition, New Delhi, 2009-10.
13. Rastogi. A Text Book of Bioogy, Edition, 2010-11.
14. Sembulinga K, Prem Sembulinga. Essential of medical physiology, Jaypee Pub. USA, 2003.
15. Singh Ajmer *et al*. Essentials of physical education, Kalyani publisher, New Delhi, 2003.
16. Solomon, Andrew. Effect of diet on serum albumin and hemoglobin adducts of in human, USA, 2005.
17. Thomas Moran E, Marin Block E. Effect of Glycemic Load diet on Glyeated Hemoglobin in poorly- Controlled Diabetes Patients, Canada, 2012.
18. Wood Norboo S *et al*. Cardiopulmonary function in high altitude residents of Ladak. High Alt Med Biol. 2003; 4(4):445-46.
19. Dr. Ajmer Singh *et al*. Essentials of physical education, Kalyani publisher, New Delhi, 2003.
20. Pradeep. A Text Book of Biology, Edition, New Delhi, 2009-10.
21. Rastogi. A Text Book of Bioogy, Edition, 2010-11.
22. Aggarwal. Biology, Edition, New Delhi, 2010-11.
23. Wood Norboo S *et al*. Cardiopulmonary function in high altitude residents of Ladak. High Alt Med Biol. 2003; 4(4):445-46.
24. Sembulinga K, Prem Sembulinga. Essential of medical physiology, Jaypee pub., USA, 2003.
25. Thomas Moran E, Marin Block E. Effect of Glycemic Load diet on Glyeated Hemoglobin in poorly- Controlled Diabetes Patients, Canada, 2012.