ISSN 0976-1101
VOL-20, ISSUE(1)

INDIAN JOURNAL OF PHYSICAL EDUCATION, SPORTS MEDICINE & EXERCISE SCIENCE

(Peered Review Journal)

(Bi-Annual)

Vol - 20 Issue(1) **January 2020**

शरीर माद्यम् खलु धर्म साधनम्

लक्ष्मीबाई राष्ट्रीय शारीरिक शिक्षा संस्थान, ग्वालियर

LAKSHMIBAI NATIONAL INSTITUTE OF PHYSICAL EDUCATION, GWALIOR

भारत
INDIA

ACCREDITED WITH GRADE A++ NAAC

J-PESMES

An Official Journal of
LAKSHMIBAI NATIONAL INSTITUTE OF PHYSICAL EDUCATION
GWALIOR

ISSN 0976-1101
VOL-20, ISSUE(1)

EDITORIAL BOARD

Corresponding Address:
Chief-Editor
Room No.9, Central Library,
Lakshmibai National Institute of Physical Education
Gwalior (M.P.) 474 002
Phone : 91 - 751 - 4025948
Email : lnipejournal@gmail.com
www.lnipe.edu.in

Publisher
Lakshmibai National Institute of Physical Education
Gwalior (M.P.) 474 002

Printed by :
Welcome Offset Printers
Lohiya Bazar, Gwalior -474 009
Mob 9425338811

ISSN 0976-1101
VOL-20, ISSUE(1)

TABLE OF CONTENTS

ISSN 0976-1101
VOL-20, ISSUE(1)

A COMPARATIVE STUDY OF PHYSIOLOGICAL VARIABLES AMONG INDIVIDUAL AND TEAM GAME PLAYERS OF SAURASHTRA UNIVERSITY

Prabhanshu Awasthi, Gandhi Nagar, Gujarat

ABSTRACT

The aim of the present study is to find out the effect of development of physiological aspects of individual game players and team game players of Saurashtra University. The hypothesis will be tested in the study; the team game players develop significantly better physiological fitness than individual game players. The following physiological variable were taken for this study, blood pressure (Systolic), blood pressure (Diastolic), heart rate, vital capacity, breath holding capacity. Conclusions:Peaking, or the ability of an athlete to perform at peak performance during a specific competition, game or event is dependent upon the knowledge and proper implementation of sport specific scientific training principles. It‘s important for the coaches and players to monitor the physiological factors of their sport and analyze the strengths and weaknesses related to their specific training programs based upon the sciences of sports training.

INTRODUCTION

Having explained to an extend necessity for the awareness and physiological makeup of human organism, the investigator proceeds to highlight the importance of physiological training in sports.The present study is an effort to add to the knowledge of sports for coaches, heads and leaders. Our boys and girls can achieve national and international triumphs only if they are scientifically trained performance.

Aim: Main aim of the present study is to find out the effect of development of physiological aspects of individual game players and team game players of Saurashtra University.

Hypothesis:The hypothesis will be tested in the study. Assuming that the other factors are kept constant, the team game players develop significantly better physiological fitne ss than individual game players.

ISSN 0976-1101
VOL-20, ISSUE(1)

METHOD

To find out the effect of development of physiological aspects of individual game players and team game players of Saurashtra University, one hundred subjects were selected (fifty each from individual game and team game players).

Analysis of Data

Table – 1

Descriptive Analysis of Physiological Variables of Individual and Team Game Players

Variable	*Type of Game*	*N*	*Mean*	*SD*
Blood Pressure (Systolic)	Individual Game Players	50	83.56	3.70
	Team Game Players	50	84.10	3.33
Blood Pressure (Diastolic)	Individual Game Players	50	120.42	2.91
	Team Game Players	50	121.18	3.00
Heart Rate	Individual Game Players	50	70.92	7.24
	Team Game Players	50	72.38	6.77
Vital Capacity	Individual Game Players	50	0.89	0.09
	Team Game Players	50	0.96	0.07
Breath Holding Capacity	Individual Game Players	50	54.51	3.66
	Team Game Players	50	56.95	3.89

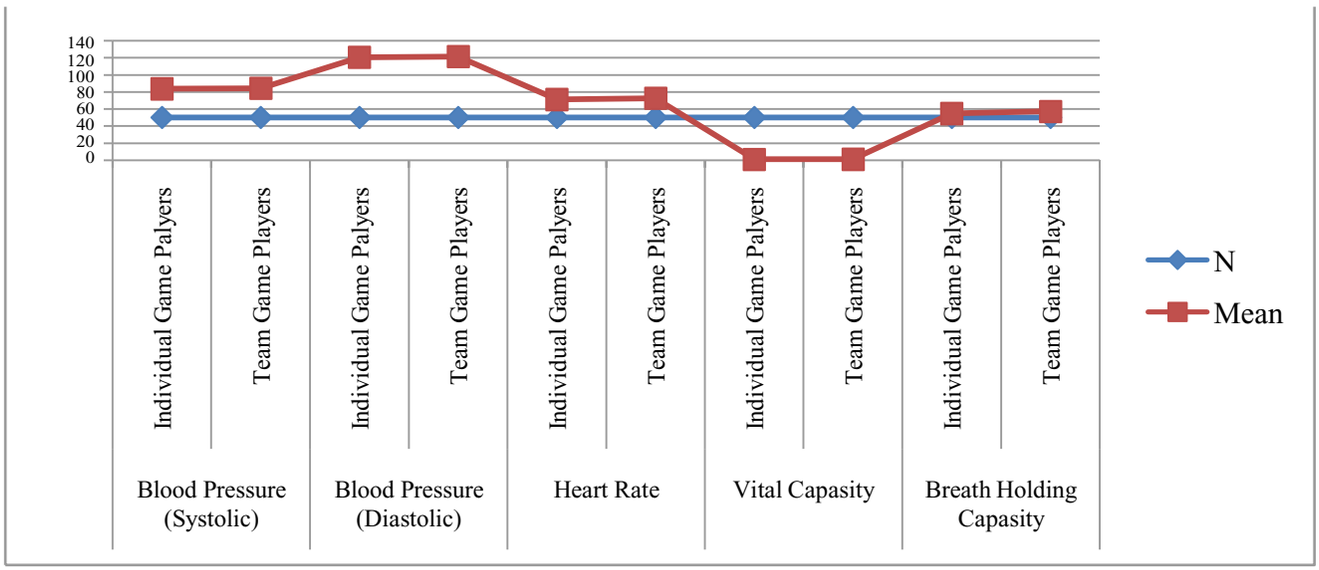


Figure-1 Mean values Of Physiological Variables of Individual and Team Game Players

ISSN 0976-1101
VOL-20, ISSUE(1)

Table – 2

Comparison of physiological variables of individual and team game players

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	(p-value)	t	df	(p-value)
Systolic BP	1.109	.295	-0.766	98	.445
Diastolic BP	.037	.849	-1.286	98	.201
Heart Rate	.083	.774	-1.042	98	.300
Vital Capacity	2.118	.149	-4.372	98	.000
Breath Holding Capacity	.098	.775	-3.233	98	.002

Table – 3

Descriptive analysis of blood pressure (diastolic) of individual and team game players

Type of Game		Individual Game Players	Team Game Players
Blood Pressure (Diastolic)	Mean	120.82	121.47
	Median	121.00	121.00
	Variance	13.36	10.82
	Std. Deviation	3.66	3.29
	Minimum	112.00	112.00
	Maximum	137.00	131.00
	Range	25.00	19.00
	Skewness	1.06	0.42
	Kurtosis	3.16	0.63

ISSN 0976-1101
VOL-20, ISSUE(1)

It is evident from table-3 that mean Blood Pressure (Diastolic) of Team game players is higher than that of Individual game Players but both are within the normal range. Further the skewness value of both the Team game players & Individual game Players is positive which implies that majority of the players in both the groups have low Blood Pressure (Diastolic) than average.

Table – 4

Comparison of mean blood pressure (diastolic) of individual and team game players

	Levene's Test for Equality of Variances	t-test for Equality of Means		
	Sig. (p-value)	T	df	Sig. (p-value)
Diastolic BP	.396	-1.322	198	.188

Table-4 reveals that Levene's Test for Equality of Variances is not significant at 0.05 level of significance as the obtained p-value (0.396) is more than 0.05. This implies that homogeneity of variance exists between the two groups and application of independent t-test is optimally valid. It can be concluded that in terms of Blood Pressure (Diastolic),players of Team game are similar to that of Individual game Players.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table – 5

Descriptive analysis of heart rate of individual and team game players

	Type of Game	Individual Game Players	Team Game Players
Heart Rate	Mean	71.14	72.94
	Median	71.00	72.00
	Variance	46.95	40.84
	Std. Deviation	6.85	6.39
	Minimum	57.00	62.00
	Maximum	88.00	91.00
	Range	31.00	29.00
	Skewness	0.12	0.42
	Kurtosis	-0.24	-0.32

Table – 6

Comparison of mean heart rate of individual and team game players

	Levene's Test for Equality of Variances		***t-test for Equality of Means***		
	F	Sig. (p-value)	t	Df	Sig. (p-value)
Heart Rate	.083	.773	1.921	198	.056

Table-6 reveals that Levene's Test for Equality of Variances is not significant at 0.05 level of significance as the obtained p-value (0.773) is more than 0.05. This implies that homogeneity of variance exists between the two groups and application of independent t-test is optimally valid. Thus, it can be concluded that in terms of Heart Rate, players of Team game are similar to that of Individual game Players.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table – 7

Descriptive analysis of vital capacity of individual and team game players

	Type of Game	*Individual Game Players*	*Team Game Players*
Vital Capacity	Mean	0.89	0.94
	Median	0.91	0.95
	Variance	0.01	0.01
	Std. Deviation	0.08	0.08
	Minimum	0.71	0.79
	Maximum	0.99	1.12
	Range	0.28	0.33
	Skewness	-0.82	0.49
	Kurtosis	-0.46	-0.07

It is evident from table-7 that mean Vital Capacity of Team game players is higher than that of Individual game Players which implies that the players of Team game are better than Players of Individual game. Further the skewness value of both the Individual game players is negative which implies that majority of the players have higher Vital Capacity than average.

Table – 8

Comparison of mean vital capacity of individual and team game players

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	p- value	t	df	p- value
Vital Capacity	.681	.41	4.91	198	.00

ISSN 0976-1101
VOL-20, ISSUE(1)

Table-8 reveals that Levene's Test for Equality of Variances is not significant at 0.05 level of significance as the obtained p-value (0.410>0.05 implies that homogeneity of variance exists between the two groups and application of independent t-test is optimally valid. Thus, it can be concluded that in terms of VCof team player better than Individual player.

Table – 9

Descriptive analysis of breath holding capacity of individual and team game players

Type of Game		Individual Game Players	Team Game Players
Breath Holding Capacity	Mean	53.83	57.41
	Median	53.75	57.85
	Variance	14.96	15.83
	Std. Deviation	3.87	3.98
	Minimum	45.60	48.20
	Maximum	62.80	69.20
	Range	17.20	21.00
	Skewness	0.12	0.04
	Kurtosis	-0.49	0.05

It is evident from table-9 that mean Breath Holding Capacity of Team game players is higher than that of Individual game Players which implies that the players of Team game are better than Players of Individual game. Further the skewness value of both the Team game players & Individual game Players is positive which implies that majority of the players in both the groups have low Breath Holding Capacity than average.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table – 10

Comparison of mean breath holding capacity of individual and team game players

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig. (p-value)	t	df	Sig. (p-value)
Breath Holding Capacity	.009	.926	6.466	198	.000

Table-10 reveals that Levene's Test for Equality of Variances is not significant at 0.05 level of significance as the obtained p-value (0.926) is more than 0.05. Thus, it can be concluded that the Breath Holding Capacity,players of team game are better than the individualplayers.

CONCLUSIONS

Peaking, or the ability of an athlete to perform at peak performance during a specific competition, game or event is dependent upon the knowledge and proper implementation

of sport specific scientific training principles. It‘s important for the coaches and players to monitor the physiological

factors of their sport and analyze the strengths and weaknesses related to their specific training programs based upon the sciences of sports training.

ISSN 0976-1101
VOL-20, ISSUE(1)

Reference

Arja, L.T.,&Uusitalo(2001). Overtraining-Making a Difficult Diagnosis and Implementing Targeted Treatment. The Physician and Sportmedicine,29(5),1-14.

Bentley, D.J., McNaughton, L.R., Thompson, D., &Batterham, A.M.(2001). Peak power, the lactate threshold, and time trail performance in cyclists. *Medicine Science Sport Exercise*. 33(12),2077-2081.

Cooke, S.R., Petersen, S.R.,&Quinney, H.A.(1997). The influence of maximal aerobic power on recovery of skeletal muscle following aerobic exercise. *European Journal of Physiology*, 75, 512-519.

Jack, H.,W.,& David, L.C.(1999). *Physiology of Sport and Exercise. Champaign*, IL: Human Kinetics.

McArdle, W.D., Katch, F.I.,&Katch, V.L.(2001). *Exercise physiology: Energy, nutrition, and human performance* (5thEdt.). Baltimore, Maryland: Lippincott Williams & Wilkins.

ISSN 0976-1101
VOL-20, ISSUE(1)

THE EFFECT OF CHAKRA MEDITATION ON HEART CHAKRA

Sonesh Poonia,Sports Officer, Govt. College, Aron (Dist-Guna; M.P)

Dr. Keshav Singh Gurjar, DSW & HOD, SOS Physical Education, Jiwaji University, Gwalior (M.P)

ABSTRACT

Chakra is a Sanskrit word that translates as wheel. Essentially, they are energy centres within our subtle anatomy that govern the distribution and flow of prana (energy or life force) through our system.Our body has 7 major and many minor c*hakras*. These 7 *chakras* are situated from base of spine to the top of head. These are psychic centre of the astral body governing a group of functions. To attain the purpose of the study, 45 students were selected as subjects from Lakshmibai National Institute of Physical Education, Gwalior (M. P.) The age of the subjects ranged between 18 to 25 years. For administration feasibility three intact groups were formed, namely group 1, group 2 and group 3 with each group consisting of fifteen students. The treatment (chakra meditation with beej mantra chanting, chakra meditation with chakra colour, and control group) was randomly allotted among groups. The training duration was five days in a week for total eight weeks. The heart chakra was selected for the study. The criterion measure chosen for testing the chakra in this study was Auramed Biopulsar Reflexograph and the energy readings of heart chakra was recorded in percentage before the training programme (pretest), after 4 and 8 weeks of training programme. To compare the effects of different

ISSN 0976-1101
VOL-20, ISSUE(1)

chakra meditation training and training duration on selected chakra 3 (Training Durations) X 3 (Training Variations) between within factorial ANOVA was used as the statistical technique and the level of significance was set at 0.05. Partial Eta Square was also calculated to see the effect size of treatment. The SPSS-20 software was used for analysis. The findings indicated that the practice of chakra meditation for 8 weeks is sufficient to bring out significant improvement in heart chakra (main effect of training duration). In all the three groups the pattern of improvement in heart chakra is almost similar after 4 and 8 weeks.

Key words: Chakra Meditation, Heart Chakra, Auramed Biopulsar Reflexograph.

INTRODUCTION

‗Chakra' is a Sanskrit word and it means "Wheel" or "Vortex". Each Chakra is like a solid ball of energy interpenetrating the physical body, in the same way that a magnetic field can interpenetrate the physical body. The Chakras are seven in number and are not physical; they are the aspects of consciousness in the same way that the Aura is aspect of consciousness. The Chakras are denser than the Auras but not as dense as the physical body. Ancient Indians situated temples above seven hills to indicate the seven Chakras. They found ways to rouse the Chakras through breathing practices and chanting Mantras. For instance, ‗Om Namah Shivaya' Mantra arouses the Chakras. Shiva Vakkiyar, A Tamil Saint, denotes in his poem that pronunciation of Om-starts at Mooladhara and ends at Thuriya, Na –activates Swadhistana, Mah- Manipuraga, Shi- Anahatha, Va - Visuddhi, Ya - Agna.

ISSN 0976-1101
VOL-20, ISSUE(1)

The seven rainbow colors are associated with our seven Chakras. Our body has 7 major and many minor c*hakras*.

(Shiv Samhita, 2012) These 7 *chakras* are situated from base of spine to the top of head. These are psychic centre of the astral body governing a group of functions (The serpent power, 1919). These chakras have specific colors, beej mantras and deities.

Areas where the energy becomes most concentrated are called energy centers or chakras as explained earlier. Wherever energy becomes blocked or cannot flow efficiently for some reason, the normal functioning of different body parts becomes disrupted and if it lasts for a longer time, diseases can emerge. According to David Pond the ―Chakras‖ store and express the divine energy and any blocks and restrictions to the flow of energy create emotional and physical imbalances.

The Anahatha or Heart Chakra is associated with the circulatory system and thymus gland. It is the centre of compassion, love, group consciousness and spirituality. The Heart Chakra governs the heart, lungs, blood and circulation. As the Heart Chakra is about love, kindness and affection, when it is open, we are compassionate and friendly, we work at harmonious relationships. When our Heart Chakra is under-active, we are cold and distant. If this Chakra is over-active, we are suffocating people with our love and our love probably has quite selfish reasons.

Everything vibrates in this universe, so the chakras also vibrate with certain frequency to channelize the energy throughout the body. Asana, Pranayama and Meditation helps in optimizing these energy channels by removing blockages.

ISSN 0976-1101
VOL-20, ISSUE(1)

There is a positive impact of mediation on life and increase consciousness through chakra energy (Chaturvedi et.al.2015). There are various mudras along with beej mantras of chakras, which are used for chakra meditation to enhance their energy levels (Dr. Indu Arora 2010). Therefore, in this study we are measuring anahat chakra energy level which also depicts the consciousness by giving two variations of chakra meditation i.e. beej mantra and chakra colour meditation.

METHODOLOGY

For this study on Effect of Chakra Meditation on Heart Chakra, forty five (45) athletes from Lakshmibai National Institute of Physical Education, Gwalior (M.P), were considered as subjects.The age of the subjects ranged between 18 to 25 years.

Tools:

The Aura is connected with the activity of Chakra and it reflects the individual state of consciousness, emotions, abilities and vital energies of a person. Auramed Biopulsar Reflexograph was used to take the energy readings of heart chakra and was recorded in percentage.

Procedure:

The data was collected from the three groups (two experimental and one controlled group) before the training of chakra meditation, after four weeks, and after the 8 weeks training of chakra meditation.

Administration of Training Programme :

The details of the training programme are as follows:

Total training program duration was of eight weeks.

ISSN 0976-1101
VOL-20, ISSUE(1)

Five days a week training session.

Training session was of 30-40 minutes/day.

Beej mantra (YAM) and chakra's colour (GREEN) were used as chakra meditation technique.

Data Analysis:

In order to see —A Compaative Effect of Different Variations of Chakra Meditation on Heart Chakra of Athletes , 3X3 mixed (Between-Within) ANOVA was used as the statistical technique and level of significance was set at 0.05. The SPSS-20 software was used for analysis. The results have been depicted in the following table:

RESULTS

Table 1

Descriptive Statistics of Heart Chakra of Different Groups andTraining Durations of Chakra Meditation

Training Duration	Groups	Mean	S. D.	N
Pre-test	Beej Mantra	61.40	8.62	15
	Colour Meditation	60.73	6.73	15
	Control Group	60.80	5.29	15

ISSN 0976-1101
VOL-20, ISSUE(1)

Four Weeks	Beej Mantra	62.60	5.87	15
	Colour Meditation	65.67	4.81	15
	Control Group	62.80	6.24	15
Eight Weeks	Beej Mantra	69.07	4.74	15
	Colour Meditation	66.13	5.49	15
	Control Group	63.80	5.73	15

Table 1 shows the scores of mean and S.D. of heart chakra of different groups and training durations of chakra meditation. The pre-test mean scores and S.D. of heart chakra for the beej mantra meditation group, chakra colour meditation group and control group were 61.40 ± 8.62; 60.73 ± 6.73; 60.80 ± 5.29 respectively.

After four weeks training duration, the mean scores and S.D. of heart chakra for the beej mantra meditation group, chakra colour meditation group and control group were 62.60±5.87; 65.67±4.81; 62.80±6.24 respectively.

The mean scores and S.D. of heart chakra after eight weeks of meditation training the beej mantra meditation group, chakra colour meditation group and control group were 69.07±4.74; 66.13±5.49; 63.80±5.73respectively.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 2

F-Table for Training Durations (Within-Subject Effect) and Interaction Effect of Heart Chakra

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	645.38	2.00	322.69	11.50	.00	.21
Time * Training Variation	Sphericity Assumed	203.38	4.00	50.84	1.81	.13	.08
Error (Time)	Sphericity Assumed	2357.24	84.00	28.06			

*p-value < 0.05 is significant.

Table 2 shows that there was a significant main effect of training durations on chakra meditation as the p-value was 0.00 which was less than 0.05. It also shows that there was no significant interaction effect between groups and training durations as the p-value was 0.13 which was greater than 0.05.

Partial eta square in the above table explains 21% of variance of training durations and 8% of variance was explained by the interaction effect, which shows variance of interaction between training durations and groups. Partial eta square of training duration and interaction indicates low effect size.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 3

F- Table for Groups (Between-Subjects Effects) of Heart Chakra

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Training Variation (Groups)	97.91	2.00	48.96	.91	.41	.04
Error	2256.09	42.00	53.72			

*F0.05> 3.23 (2, 42 df) is significant.

Table 3 shows that there was no significant main effect of groups (beej mantra meditation, chakra colour meditation and control group) on heart chakra due to chakra meditation practice as the as the calculated F-value (0.91) was found to be less than the tabulated f value (F=3.23) with df 2, 42 at 0.05 level of significance (p-value > 0.05). Partial eta squared in the above table explains 4% of variance of groups, which indicates low effect size.

To compare different training durations (i.e. pretest, after 4 weeks and after 8 weeks), pairwise comparisons were performed after Bonferroni adjustment, and the results are shown in the table underneath:

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 4

Pairwise Comparisons between Training Durations of Heart Chakra

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Pretest	4 weeks	-2.71	1.16	.07	-5.59	.17
	8 weeks	-5.36*	1.21	.00	-8.38	-2.33
4 weeks	pretest	2.71	1.16	.07	-.17	5.59
	8 weeks	-2.64*	.97	.03	-5.05	-.24

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Table 4 shows that there was a no significant difference were found between pretest- 4 weeks as the p-value was greater than 0.05. However, significant differences were found between pretest- 8 weeks and 4 weeks- 8 weeks as the p-values were less than 0.05.

Graphical representation of heart chakra for all the three experimental groups in all durations of training is shown in figure below:

ISSN 0976-1101
VOL-20, ISSUE(1)

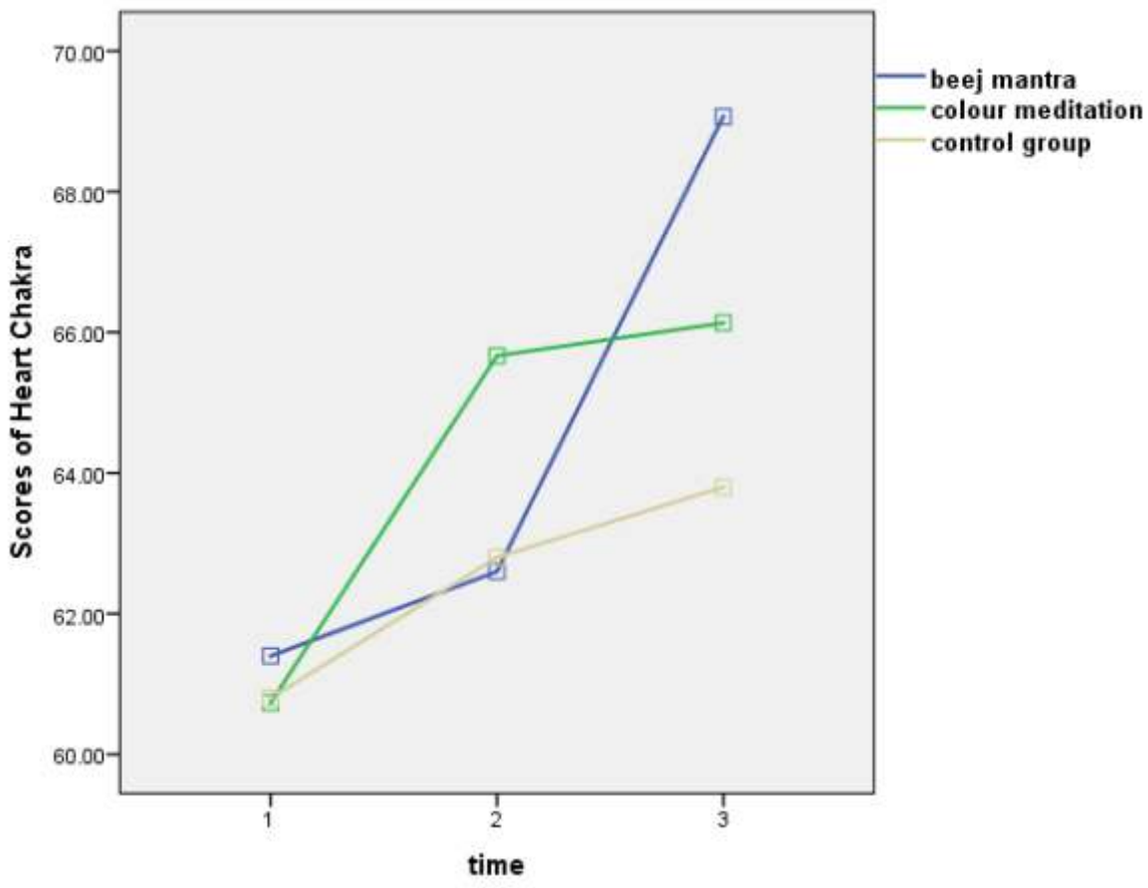


Figure: Graphical Representation of Different Groups with Training Duration of Heart Chakra

On the basis of the finding we conclude that practice of chakra meditation for 8 weeks is sufficient to bring out significant

improvement in heart chakra (main effect of training duration). In all the three groups the pattern of improvement in heart chakra is almost similar after 4 and 8 weeks.

CONCLUSIONS

On the basis of the finding we conclude that practice of chakra meditation for 8 weeks is sufficient to bring out significant

ISSN 0976-1101
VOL-20, ISSUE(1)

improvement in heart chakra (main effect of training duration). There were no significant differences found among three groups (main effect of training variations of chakra meditation) on heart chakra after 4 and 8 weeks of duration and improvement in heart chakra was almost similar after 4 and 8 weeks in all three groups (interaction effects insignificant). It means an individual can perform either mantra or colour meditation on chakras for eight weeks. Anahatha Chakra (heart) meditation enhances the thymus gland; eradicates fear, cowardice and complexes; and transforms us into compassionate and friendly.

REFERENCES

Arora, Indu (2010). Chakra Meditation with Mudra and Mantra.*International Symposium on Yogism*.

Chatruvedi, D. K. et al (2014). Correlation between Energy Distribution profile and Level of Consciousness, *International Journal of Education*, 4(1), 1-9.

Gueldner, S. H., Michel, Y., Bramlett, M.H., Liu, C., Johnston, L.W., Endo, E., et al. (2005). The well-being picture scale: A revision of the index of field energy. *Nursing Science Quarterly*, 18, 42-50.

Judith, A. (2002). *Wheels of Life: A User's Guide to the Chakra System*. St. Paul, Llewellyn Publications.

Mandel, P. (1986). Energy emission analysis: New application of Kirlian photography for holistic medicine. Berlin, Synthesis Publishing.

ISSN 0976-1101
VOL-20, ISSUE(1)

Telles, S., Nagarathna, R., & Nagendra, H. R. (1995). Autonomic Changes during "OM" Meditation. *Indian Journal of Physiology and Pharmacology*, 39(4), 418-420.

Tiller W. (1993) What are subtle energies? J. Sci. Explor, 7:293–304.

Wright, L.D. (2001). Meditation: Myths and misconceptions. *Alternative Therapies in Health and Medicine*, 7(2), 96-97.

Yrubik, B. (2002). The Biofield Hypothesis: Its Biophysical Basis and Role in Medicine. *The Journal of Alternative and Complementary Medicine*, 8: 703-717.

ISSN 0976-1101
VOL-20, ISSUE(1)

ASSESSMENT OF SKINFOLD THICKNESS AMONG FEMALE STATE AND NATIONAL LEVEL FOOTBALL PLAYERS OF INDIA

Shweta, Research Scholar, LNIPE Gwalior
Dr. Abdul Roof Rather, Assistant Professor, Govt. College of Physical Education, Ganderbal, J&K

ABSTRACT

The purpose of this study was to determine the comparison of selected skinfold measurement among female state and national football players. In this study 30 female subjects were selected, the data was collected at LNIPE, Gwalior during Indian National Camp 2018. The age of the subjects ranged from19-27years. Selected kinanthropometric parameter was skinfold thickness. The data was analyzed by applying descriptive statistics i.e. mean, standard deviation and Independent t-test to find out the significant di fference, if any, among the national and state level players. Differences were considered significant at 0.05 level. Both groups differed significantly ($p<0.05$) in all the six skinfold measurements, indicating that national level football players possess better conditioned physique for football than state level players.

Keywords: *Anthropometric, Skinfold, Football, Sports, Body fat.*

ISSN 0976-1101
VOL-20, ISSUE(1)

INTRODUCTION

While designing training and nutrition strategies for the athletes, body fat content is taken into consideration for its negative influence on optimal sport performance. Information on anthropometrical characteristics of football players in India is very limited particularly of women football players. Football involves frequent bouts of intense activities such as dribbling, passing, and shooting, these activities are coupled with short rest periods throughout the match duration.

Kinanthropometry is a useful tool in the hands of sports scientists, physical anthropologists, sports coaches and physical educationists for the study of athletes in different sport specializations (Singh and Malhotra, 1989).

Kinanthropometric measurements are used to determine body size differences, somatotyping and body composition. Knowledge of kinanthropometry equips us with technique of various body measurements like skinfolds. Studies on the physical characteristics of the human body till date indicate that the morphological characteristics of athletes successful in a specific sport differ in somatic characteristics from the general population.

Kinanthropometry examines the link between anatomy (structure) and performance (function) (MacDougall et al., 1982) of physical characteristics for a particular sport (Singh & Malhotra, 1989). The fat mass proportion has definite and decisive advantage in many games. To that end, the purpose of this study was to analyse skinfold thickness of female state and national players of football.

ISSN 0976-1101
VOL-20, ISSUE(1)

METHODOLOGY

The present study was conducted on 30 female athletes (State level N=15) and (National level N=15) of the age group of 19-27 years. Purposive sampling technique was adopted for the selection of subjects. The data of athletes was collected at Lakshmibai National Institute of Physical Education (LNIPE) Gwalior during Indian National Camp 2018. Skinfold was measured by Harpendon skinfold caliper to the nearest 0.1mm.Mean, Standard deviation, independent t-test was used. Level of significant difference between two groups was set at $p<0.05$ level. Data was analyzed using SPSSv20. The result pertaining to these data have been depicted in the following table.

Table-1

Represents the Triceps skinfold measurements of state and national level football players

Variable	*Group*	*N*	*Mean*	*SD*	*t- value*	*p- value*
Triceps	State	15	17.36	4.60	2.68	.01
	National	15	12.94	4.41		

ISSN 0976-1101
VOL-20, ISSUE(1)

Table-2

Represents the Biceps skinfold measurements of state and national level football players

Variable	*Group*	*N*	*Mean*	*SD*	*t- value*	*p- value*
Biceps	State	15	8.00	2.53	2.46	.02
	National	15	4.61	4.69		

Table-3

Represents the Sub-Scapular skinfold measurements of state and national level football players

Variable	*Group*	*N*	*Mean*	*SD*	*t- value*	*p- value*
Sub-Scapular	State	15	16.70	3.65	4.77	.00
	National	15	9.01	5.06		

Table-4

Represents the Supra-illiac skinfold measurements of state and national level football players

Variable	*Group*	*N*	*Mean*	*SD*	*t- value*	*p- value*
Supra-Iliac	State	15	16.03	5.76	3.03	.00
	National	15	9.65	5.75		

ISSN 0976-1101
VOL-20, ISSUE(1)

Table-5

Represents the Front Thigh skinfold measurements of state and national level football players

Variable	*Group*	*N*	*Mean*	*SD*	*t- value*	*p- value*
Front Thigh	State	15	24.66	4.71	3.18	.00
	National	15	18.92	5.10		

Table-6

Represents the Medial Calf skinfold measurements of state and national level football players

Variable	*Group*	*N*	*Mean*	*SD*	*t- value*	*p- value*
Medial Calf	State	15	13.33	3.62	3.33	.00
	National	15	9.54	2.51		

RESULTS

Table-1 to 6 indicate the analytical structure of six direct measure skinfold variables. Value of mean and SD of six sites of both groups were (17.36±4.5 mm and 12.9±4.4 mm) for triceps, (8.00±2.53 mm and 4.61±4.69 mm) for biceps, (16.70±3.65 mm and 9.10±5.05 mm) for sub-scapular, (16.03±5.75mm and 9.65±5.74 mm) for supra-illiac, (24.66±4.71mm and 18.92±5.10 mm) for front thigh,

ISSN 0976-1101
VOL-20, ISSUE(1)

(13.33±3.61mm and 9.54±2.51mm) for medial calf of state and national level group, respectively.

All the six direct measure skinfold segments of national group were less in comparison to their counterpart. The data of national group significantly differed from the state group in all the six segments ($p<0.05$).

DISCUSSION

For the estimation of fat component in athletes, skinfold measurement at different body segments is an acceptable parameter. Skinfold sum has a direct correlation with fat content and thus, the thickness of skinfolds in certain body segments is directly related to local fat accumulation (Garrido-Chamorro, et al, 2012). Marfell-Jones and colleagues (2006) maintained that fatty mass calculations in athletes should comprise of six skinfolds sum instead of four. Hence six skinfold measurements were used in this study to analyses the skinfold sum in football players. On the other hand, physical characteristics alone have not tremendous influence on the performance level of a sportsperson. However, there can also be significant disadvantages posed by size and resultant mass that could prove to be hindrance to success. The state team players possess significantly greater skinfold measurements, the greater fat content in the body affect performance negatively. (Terzis et al., 2010, Tanner, 1964). As described by Norton (1996), body mass, size, shape and level of fatness, have significant effects on performance. Moreover, fatness was localized in the triceps and front thigh body segments and this may vary as per gender and game.

ISSN 0976-1101
VOL-20, ISSUE(1)

CONCLUSION

Females have higher skinfold sum than males. Given to it fatness was localized in triceps and thighs in both state as well as national level football players. Fatness is critical in determining the optimal sports performance. Hence, skinfold measurement becomes an important tool used in prediction of fatness. The state level football players showed greater sum of skinfold measurements than national level football players, which is a clear indication that national level players are more conditioned than their counterpart. Such measurements should be analysed from time to time to help athletes gain more and more fitness required for the optimal performance.

REFERENCES

Garrido, C. R.., Sirvent, B. J., Gonzalez, L. M., Blasco, L. C. and Roche, E. (2012). Skinfold Sum: reference values for top athletes. *Int. J. Morphol.*, 30(3):803-809.

Marfell-Jones, M., Olds, T., Stewart, A. and Carter, L, (2006). International standards for anthropometric assessment. Potchefstroom, *The International Society for the Advancement of Kim Anthropometric (ISAK),* Potchefsroom, South Africa

Khan Zamirullah, Ahmad Naseem, Raja Hassan Waseem, et al (2016) Kinanthropometric profile and physical performance of athletic track events in relation to different runners.*Journal of Education and Practice.*Vol. 7, No. 13.

ISSN 0976-1101
VOL-20, ISSUE(1)

Mondal pallob and Mridha Sanjib et al (2015) A study on selected kinanthropometric characteristics of height-weight matched female athletes and non-athletes.*IOSR Journal of Sports and Physical Education (IOSR-JSPE).*Volume 2, Issue 5 (Sept-Oct.2015), PP 41-45.

Kaira Singh, Pant Gaurav, et al (2016) Comparison of selected kinanthropometric variablesamong basketball and volleyball players. *International Journal of Physical Education, Sports and Health 2016;* 3(6): 63-64

Nath (1995). Anthropometry: *The Measurement of Body Size, Shape and Form.* New Delhi: Friends Publication

ISSN 0976-1101
VOL-20, ISSUE(1)

ANALYSIS OF NUTRITION STATUS OF FEMALE RACKET SPORTS PLAYERS IN LNIPE, GWALIOR

Anamika Vats, M.P.Ed Student
Dr. Brij Kishore Prasad, Assistant Professor, Dept. of Health Sciences, LNIPE, Gwalior (M.P.)

ABSTRACT

The purpose of the present study was to analyze the nutrition status of female racket sports players (Badminton, Squash, Table Tennis and Lawn Tennis). For this study total thirty (30) female subjects from under graduate (U.G.) course were selected from LNIPE, Gwalior. The age of all subjects ranged between 18-22 years. The data was collected through a nutrition questionnaire. To analyze the collected data descriptive statistics was used. The mean of the collected data is 21.43, standard deviation is 5.42, the minimum score of the subjects is 12.00, and the maximum is 33.00. The study reveals that there are above half of the players, who falls under poor category, other falls under fair category and one player falls in very poor category.

KEYWORDS: *Nutrition, Questionnaire, Female, Badminton, Squash, Table Tennis, Lawn Tennis.*

INTRODUCTION

The science of nutrition studies the relationship of foods to optimal health and performance. Ample scientific evidence has long linked good nutrition to overall health and well-being.

ISSN 0976-1101
VOL-20, ISSUE(1)

The diet of athletes training for major competitions must meet certain requirements. Only with adequate nutrition can an athlete‘s body compensate for increased energy loss and nutritional needs and thereby facilitate the maximum adaptation to physical loads. A healthy diet for sport and exercise should contain plenty of starchy foods, plenty of fruits and vegetables, some protein foods and some dairy foods. It is also important to stay hydrated.

The main purpose of nutrition is to ensure the compensation of increased energy consumption and the need for nutrients in the athlete‘s body, thereby enabling maximum adaptation to physical loads. Nutrition also focuses on how diseases, conditions, and problems can be prevented or reduced with a healthy diet. Nutrition, nourishment, or aliment, is, the, supply of materials –food-required by organisms and cells to stay alive. In science and human medicine, nutrition is the science or practice of consuming and utilizing foods.

METHODOLOGY

Selection of Subjects: Total thirty (30) female subjects from all racket sports (Badminton, Squash, Table Tennis, Lawn Tennis). All subjects were selected from LNIPE, Gwalior, (M.P).

Questionnaire Selected: The questionnaire is selected from nutrition status and lifestyle by Nutra Therapeutics which is based on dietary information through which nutrition status of an individual is calculated. There are 20 questions in the questionnaire and the scale of rating through which score is to be calculated is as follows

ISSN 0976-1101
VOL-20, ISSUE(1)

Table No. 1

Overall Dietary Rating

Total Score on Questionnaire:

0-5	Excellent Dietary Patterns
6-10	Good Dietary Patterns
11-20	Fair Dietary Patterns
21-30	Poor Dietary Patterns
31-40	Very Good Patterns
>40	Extremely Unhealthy Dietary Patterns

Table no. 1 reveals the rating scale of the questionnaire in which 0-5 range shows the excellent dietary patterns, 6-10 range shows the good dietary patterns, 11-20 range shows the fair dietary patterns, 21-30 range shows the poor dietary patterns, 31-40 range shows the very poor dietary patterns, >40 shows the extremely unhealthy dietary patterns.

Results

Table No. 2

Descriptive Analysis of Selected Players

Mean	21.43
Standard deviation	5.42
Minimum score	12.00
Maximum score	33.00

ISSN 0976-1101
VOL-20, ISSUE(1)

Table no. 2 reveals the descriptive analysis of the subjects. There are 30 females' subjects of different racket sports (badminton, squash, table tennis, lawn tennis). The table shows the mean of the collected data is 21.43, standard deviation is 5.42, the minimum score of the data is 12.00, and the maximum is 33.00.

Table No. 3

Responses of Nutritional Questionnaire

On the bases of collected data on selected Nutritional Questionnaire of selected subjects is presented in table no. 3

S. No	***Item***	***No of Racket Players***
1	Excellent (0-5)	NIL
2	Good (6-10)	NIL
3	Fair (11-20)	12
4	Poor (21-30)	17
5	Very Poor (31-40)	01
6	Extremely Unhealthy (>40)	NIL
7	Total	30

Table no. 3 reveals that there are 17 subjects who comes under poor category ,12 subjects comes under fair category, 1 subject come under very poor category and in excellent, good, extremely unhealthy no subject comes under this. Graphical representation of above table is made in figure no.1

ISSN 0976-1101
VOL-20, ISSUE(1)

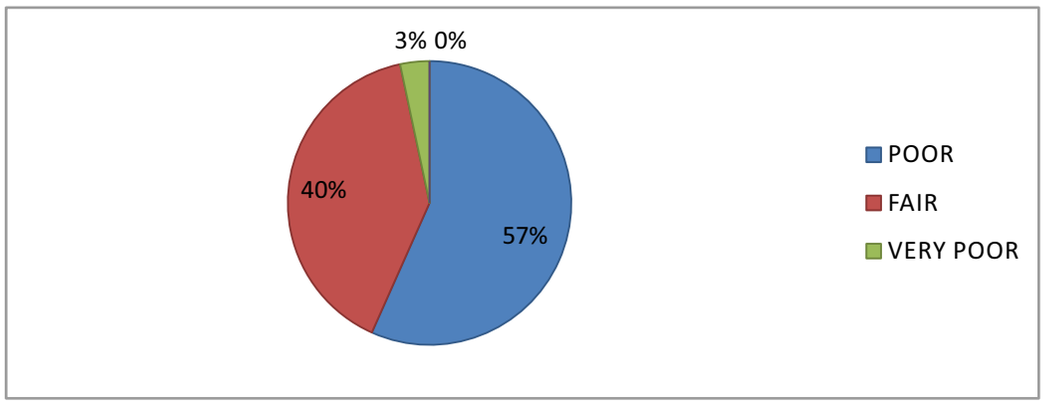


Figure No.1 Responses of Nutritional Questionnaire

Table No. 4

Game-wise Distribution of Nutritional Status

S.No.	*Sports*	*No. Of Players*	*Fair*	*Poor*	*V.Poor*
1	*Badminton*	17	4	12	1
2	*Table Tennis*	7	5	2	Nil
3	*Lawn Tennis*	4	1	3	Nil
4	*Squash*	2	2	Nil	Nil
5	*Total*	30	12	17	1

Table no. 4 reveals the distribution of the players according to the sports in which four racket sports are there. In badminton total players are 17 in which 12 are in poor category, 4 are in fair and 1 in very poor. In table tennis total players are 7 in which 5 are in fair category and 2 are in poor. In lawn tennis total players are 4 in which 3 are in poor category and 1 in fair. In squash total players are 2 and both are in fair category.

ISSN 0976-1101
VOL-20, ISSUE(1)

CONCLUSIONS

After completion of the study the conclusion were drawn that above half of the players (17) comes under in poor category and (12) players comes in fair category and one player come in very poor category. It means the players, who come under fair category are taking sufficient diet but not the exact one and their nutrition status is fair. The players, who come under poor category, they are not taking the food in which nutritious value is there and there nutrition status is poor. And one player who comes under very poor category, means she is nearly to the unhealthy status because of her unbalanced diet, she is not taking the good and nutritious food and because of this her nutrition status is very poor. According to sports if we compare then most of the badminton players falls under poor category and in table tennis most of the players comes under fair category. It means the badminton players are lacking in nutrition status comparison to other sports. No player falls in good category in all four racket sports which means the players must improve their food for more nutritious value.

ISSN 0976-1101
VOL-20, ISSUE(1)

REFERENCES

Park, K. (2000). *Preventive and Social Medicine*(24th ed.). Jabalpur,India: Banarsidas Bhanot Publishers.

Agashe R. Sanjay, (2012).*Introduction to Health Education,*New Delhi,India: Khel Sahitya Kendra Publication.

Dheer S. Dr. BasuMitra (1991), *Introduction to Health Education*,(1991-2005) India: Friends Publications.

Thakur Kumar Jitendra, (2012).Teaching Health Education, New Delhi,India: Khel Sahitya Kendra Publisher.

Baiju. A, (2003)Health Related Physical Fitness and Nutritional Status of Tribal Children in Wayanad on *Medical News Today*,(Retrieved on 18 February 2019) from www.medicalnewstoday.com/articles/160774. php

ISSN 0976-1101
VOL-20, ISSUE(1)

EFFECT OF HYPEROXIC BREATHING ON POST BOUT RECOVERY ON MALE JUDOKA

Vijendra Yadav PhD scholar, LNIPE, Gwalior
Dr. Birendra Jhajhariya, Assistant Professor, LNIPE, Gwalior

ABSTRACT

Aim-The purpose of this study was to see the effects of Hypertoxic Breathing on post bout recovery of Male Judoka. For this study 10 male judoka from LNIPE, Gwalior age 19-24, weight 69.35±10.82, and height 168±4cm were purposively selected for the study. It was hypothesized that therewill be significant difference in post bout recovery time after oxygen breathing in male judo players. Statistical analysis under taken with the help of SPSS, one-way repeated measure design was used for analysis of Data. The results shown significant at 0.05, so based on the results of this study it may concluded that the significant recovery can be obtain just after 5 minutes of hyperoxic breathing so, 5 minutes hyperoxic breathing is better for post bout recovery in male judoka.

Keyword: *Hyperoxic Breathing, Heart Rate, Judoka, Recovery.*

INTRODUCTION

Extremely high load cannot be tackled for long period of time by a sports man unless the recovery processes are supported and accelerated by some recovery means and

ISSN 0976-1101
VOL-20, ISSUE(1)

methods. Post-exercise recovery is a vital component of the overall exercise training paradigm, and essential for high-level performance and continued improvement. If the rate of recovery is appropriate, higher training volumes and intensities are possible without the detrimental effects of overtraining.

Judo is generally considered as a sport which combines strength and endurance. With considerable interest, we are following developments concerning the increasingly popular practice of breathing oxygen (O2)-enriched air (normobaric hyperoxia) in an attempt to improve both athletic performance and recovery, especially by elite endurance athletes (Hevoskuuri 2016).

The processes occurring during recovery from exercise are just as an important as those occurring during exercise itself. Incomplete recovery between exercise bouts or athletic contents will ultimately lead to decrement in performance. Various modalities of recovery are currently used by athletes in an attempt to offset the negative effects of strenuous exercise. Elite-level athletic participation necessitates recovery from many physiological stressors including fatigue to the musculoskeletal, nervous and metabolic systems.

Athletic participation may also because exercise induced muscle damage (EIMD), which may lead to delayed onset muscle soreness. Contrast Water Therapy (CWT), alternating cold and warm water immersion, is also been offered to athletes as an alternative to cryotherapy and is commonly used within the sporting community.

ISSN 0976-1101
VOL-20, ISSUE(1)

Administration of supplemental O2 is not prohibited by the World Anti-Doping Agency, and indeed, there is striking evidence that when administered at sea-level, hyperoxia (i.e., an inspired fraction of O2 (FiO2) greater than nonmonic FiO2 >0.2095) improves power output by 2.4–16.5% during both

maximal and submaximal cycling (Hogan et al). Hyperoxia increases the arterial O2 pressure (PaO2), the saturation of hemoglobin (Hb) with O2 (SaO2), and the amount of oxygen dissolved in the plasma. Consequently, the arterial oxygen content (CaO2) is greater during hyperoxic breathing, implying that for a given cardiac output systemic O2 delivery, which has been shown to be a major determinant of VO2max (Saltin&Calbet, 2006) and endurance is enhanced (Amann &Calbet, 2008). From a practical point of view, an athlete could benefit from hyperoxia in three different ways:

1. Improvement of performance when hyperoxia is administered during exercise.
2. Faster recovery between bouts of exercise.
3. Enhancement of the effects of training through concomitant use of hyperoxia.

METHODOLGY

Selection of Subjects: Ten male judoka were purposively selected from Lakshmibai National University of Physical Education, Gwalior,(M.P.)India. The age of the subjects was between 19 to 24 yrs. The subjects were approximately undergone a similar kind of training regime and approximately

ISSN 0976-1101
VOL-20, ISSUE(1)

having a similar kind of schedule off the ground in terms of diet, life style, studies, daily activities like sleeping hours etc.

Selection of Variable: Keeping in mind the feasibility criteria and the specific purpose of this investigation, the researcher has taken Hyperoxic breathing as an independent variables and heart Rate as a dependentvariable. ***Administration of test and collection of Data:***In order to acquaint the subjects with the specific purpose of the research being conducted, all the subjects were assembled in the Judo hall of L.N.I.P.E. Gwalior. All the necessary information pertaining to the requirement of the testing procedure was imparted to them. To make the research finding more authentic, positive attitude towards investigation was emphasized.

Analysis and Interpretation of Data

Table: -1

Descriptive Statistics

	Mean	S. D.	N
Pre Bout	78.80	12.94	10.00
Post Bout	139.30	17.66	10.00
After 05 Minute	101.90	19.33	10.00
After 10 Minute	101.90	14.05	10.00
After 15 Minute	91.70	11.17	10.00

ISSN 0976-1101
VOL-20, ISSUE(1)

Table: -2

Mauchly's Test of Sphericity

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilonb		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Time	.305	8.811	9	.466	.762	1.000	.250

Table3

Tests of Within-Subjects Effects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
TIME	Sphericity Assumed	20330.480	4.000	5082.620	51.613	.000	.852
	Greenhouse-Geisser	20330.480	3.049	6668.096	51.613	.000	.852
	Huynh-Feldt	20330.480	4.000	5082.620	51.613	.000	.852
	Lower-bound	20330.480	1.000	20330.480	51.613	.000	.852
Error (TIME)	Sphericity Assumed	3545.120	36.000	98.476			
	Greenhouse-Geisser	3545.120	27.440	129.194			
	Huynh-Feldt	3545.120	36.000	98.476			
	Lower-bound	3545.120	9.000	393.902			

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 4

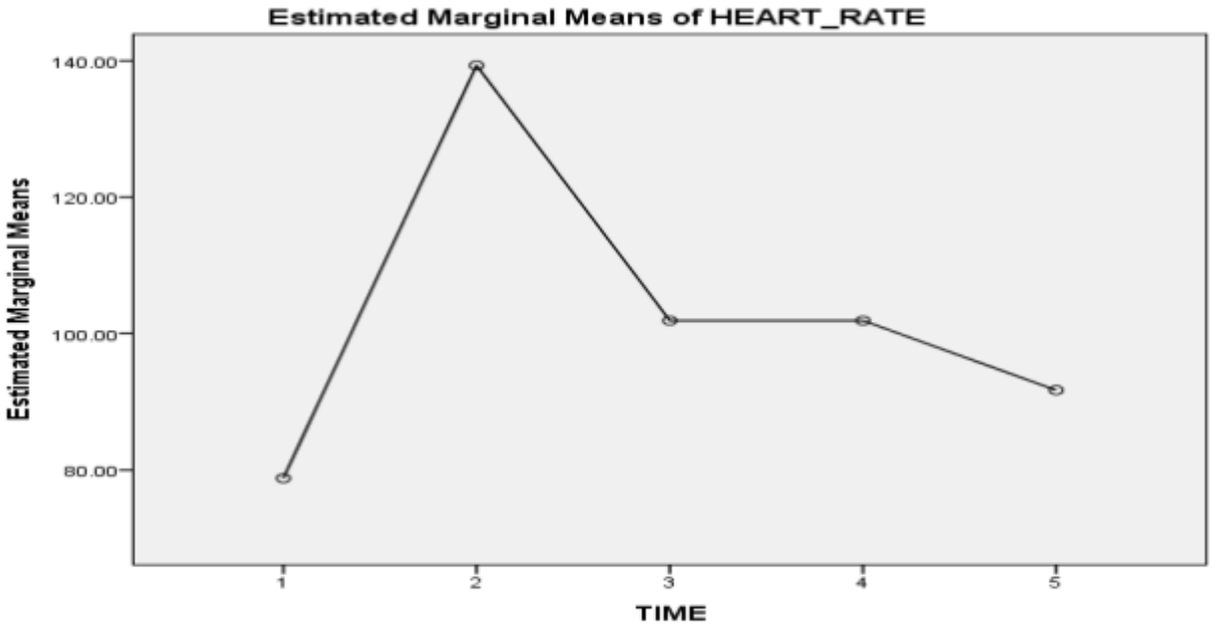
Pairewise Comparisons

(I) TIME	(J) TIME	Mean Difference (I-J)	Std. Error	Sig.
1.000	2.000	-60.500*	5.459	.000
	3.000	-23.100*	5.087	.014
	4.000	-23.100*	3.811	.002
	5.000	-12.900	4.537	.193
2.000	1.000	60.500*	5.459	.000
	3.000	37.400*	4.963	.000
	4.000	37.400*	4.801	.000
	5.000	47.600*	5.027	.000
3.000	1.000	23.100*	5.087	.014
	2.000	-37.400*	4.963	.000
	4.000	.000	3.300	1.000
	5.000	10.200	4.184	.375
4.000	1.000	23.100*	3.811	.002
	2.000	-37.400*	4.801	.000
	3.000	.000	3.300	1.000
	5.000	10.200*	2.195	.012
5.000	1.000	12.900	4.537	.193
	2.000	-47.600*	5.027	.000
	3.000	-10.200	4.184	.375
	4.000	-10.200*	2.195	.012

ISSN 0976-1101
VOL-20, ISSUE(1)

Figure1

Marginal means plot



CONCLUSIONS

The main aim of the present study was to examine the hyperoxic breathing effect on male judo players after a complete exhaustive bout of 5 minutes.Based on the current results of sample data it may concluded from this figure that the significant recovery was observed just after 5 minutes of hyperoxic breathing so, 5 minutes hyperoxic breathing is better for post bout recovery in male judoka. The results of study show that breathing enriched oxygen after bout significantly enhanced the exercise performance. In the recovery period after exercise there is an increase in oxygen uptake termed the 'excess post-exercise oxygen consumption' (EPOC), consisting of a rapid and a prolonged component.

ISSN 0976-1101
VOL-20, ISSUE(1)

This is related to an improved arterial oxygenation that promotes oxygen availability in muscles and brain and to a reduction of excessive ventilatory response to exercise thereby enhancing ventilatory efficiency. Therefore,hyperoxic breathing is beneficial for recovery from exhaustive judo bout and physical activity and this investigation came to the conclusion that the effect of oxygen breathing was a greater in lowering heart rate, blood lactate and improving recovery rate after judo bout.

REFERENCES

Powers, S.K. & Howley, E. T. (2009). *Exercise Physiology: Theory and Application to Fitness and Performance* (7th ed.). New York: McGraw-Hill Companies.

King, M., and R. Duffield(2009). The effects of recovery interventions on consecutive days of intermittent sprint exercise. *J. Strength Cond. Res.* 23: 1795-1802.

Franchini E(2003), Effects of recovery type after a judo combat on blood lactate removal and on performance in an intermittent anaerobic task. Dec; 43(4):424-31.

Pandey Gayatri, Dr. Pandey Vivek & Dr. Pathak Anju (2016). Prediction of maximum oxygen uptake via twelveminutes run and walk test of pre-orientated inopposition to randomized athletes:A comparativestudy. *International Journal of Applied Research. Vol.* 2 (6):107-10.

Calmet M, et al. (2010) Modeling of grasps in judo contests. *International Journal of Performance Analysis in Sport,* 10 (3): 229-240.

Rowsell, G.J. et al. (2009). Effects of cold-water immersion on physical performance between successive matches in high-performance junior male soccer players. *Journal of Sports Sciences,* 27, 565–573.

ISSN 0976-1101
VOL-20, ISSUE(1)

EFFECT OFDIFFERENT VARIATION OF CHAKRA MEDITATION ON SPLEEN CHAKRAOF ATHLETES: A COMPARATIVE STUDY

Sonesh Poonia,Sports Officer, Govt. College, Aron (Dist-Guna, M.P)

Dr. Keshav Singh Gurjar, DSW & HOD, SOS Physical Education, Jiwaji University, Gwalior (M.P)

Abstract

In the Tantric traditions, chakras (Skt. *cakra*) are focal points for meditation within the human body, visualized as structures of energy resembling discs or flowers at those points where a number of *nāḍī*s or meridians converge. Our body has 7 major and many minor c*hakras*. These 7 *chakras* are situated from base of spine to the top of head. These are psychic centre of the astral body governing a group of functions. To attain the purpose of the study, 45 students were selected as subjects from LNIPE, Gwalior (M. P.). The age of the subjects ranged between 18 to 25 years. For administration feasibility three intact groups were formed, namely group 1, group 2 and group 3 with each group consisting of fifteen students. The treatment (chakra meditation with beej mantra chanting, chakra meditation with chakra colour, and control group) was randomly allotted among groups. The training duration was five days in a week for total eight weeks. The Spleen chakra was selected for the study. The criterion measure chosen for testing the chakra in this study was Auramed Biopulsar Reflexograph and the energy readings of spleen chakra was recorded in percentage before the training programme (pretest), after 4 and 8 weeks of training programme. To

ISSN 0976-1101
VOL-20, ISSUE(1)

compare the effects of different chakra meditation training and training duration on selected chakra 3 (Training Durations) X 3 (Training Variations) between within factorial ANOVA was used as the statistical technique and the level of significance was set at 0.05. Partial Eta Square was also calculated to see the effect size of treatment. The SPSS-20 software was used for analysis. The findings indicated that the practice of chakra meditation for 8 weeks is sufficient to bring out significant improvement in spleen chakra (main effect of training duration). In all the three groups the pattern of improvement in spleen chakra is almost similar after 4 and 8 weeks.

Key words: chakra meditation, spleen chakra, auramed biopulsar reflexograph.

INTRODUCTION

In the Tantric traditions, chakras (Skt. *cakra*) are focal points for meditation within the human body, visualized as structures of energy resembling discs or flowers at those points where a number of ***nāḍī*** or meridians converge. They are conceptual structures yet are phenomenologically based, since they tend to be located where human beings experience emotional and/or spiritual energy, and since the form in which they are visualized reflects visionary experiences had by meditators. ‗Chakra' is a Sanskrit word and it means "Wheel" or "Vortex". Each Chakra is like a solid ball of energy interpenetrating the physical body, in the same way that a magnetic field can interpenetrate the physical body. The Chakras are seven in number and are not physical; they are the aspects of consciousness in the same way that the Aura is aspect of consciousness. The Chakras are more dense than the Auras but

ISSN 0976-1101
VOL-20, ISSUE(1)

not as dense as the physical body. Ancient Indians found ways to rouse the Chakras through breathing practices and chanting Mantras. For instance, ‗Om Namah Shivaya' Mantra arouses the Chakras. Shiva Vakkiyar, A Tamil Saint, denotes in his poem that pronunciation of Om-starts at Mooladhara and ends at Thuriya, Na –activates Swadhistana, Mah- Manipuraga, Shi- Anahatha, Va - Visuddhi, Ya - Agna. The seven rainbow colors are associated with our seven Chakras. Our body has 7 major and many minor c*hakras*. (Shiv Samhita, 2012) These 7 *chakras* are situated from base of spine to the top of head. These are psychic centre of the astral body governing a group of functions (The serpent power, 1919). These chakras have specific colors, beej mantras and deities.

The position of the Manipūra Chakra is in the middle of the abdomen behind the navel; this is why it is also known as the Navel Centre. The beej mantra of this chakra is RAM and the colour is YELLOW/ ORANGE. The Manipūra Chakra is the ―City of Jewels in which we find the pearls of clarity, wisdom, self-confidence and wellbeing. Their lustre radiates down to the lower Chakras as well as up to the Heart Centre (Anāhata Chakra). The Tattva (element) of the Manipūra Chakra is TEJAS (fire), and therefore this Chakra is also known as the Fire or Sun Centre. The Fire Element manifests within the body as body heat. The functioning of the Manipūra Chakra is closely connected to the Pancreas.

According to David Pond the ―Chakras‖ store and express the divine energy and any blocks and restrictions to the flow of energy create emotional and physical imbalances. Everything vibrates in this universe, so the chakras also vibrate with certain frequency to channelize the energy throughout the

ISSN 0976-1101
VOL-20, ISSUE(1)

body. Asana, Pranayama and Meditation helps in optimizing these energy channels by removing blockages.

Panday et al. (2011) conducted a study to check the effect of yoga sadhana and pranic healing on pranic energy level of female prisoners.and the study has revealed significant results. Therefore, in this study we are measuring spleen chakra energy level which also depicts the consciousness by giving two variations of chakra meditation i.e. beej mantra and chakra colour meditation.

MATERIALS AND METHODS

Subjects:

For the purpose of this study forty five (45) athletes from Lakshmibai National Institute of Physical Education, Gwalior (M.P), were considered as subjects.The age of the subjects ranged between 18 to 25 years.

Tools:

The Aura is connected with the activity of Chakra and it reflects the individual state of consciousness, emotions, abilities and vital energies of a person. Auramed Biopulsar Reflexograph was used to take the energy readings of spleen chakra and was recorded in percentage.

Procedure:

The data was collected from the three groups (two experimental and one controlled group) before the training of chakra meditation, after four weeks, and after the 8 weeks training of chakra meditation.The details of the training programme are as follows:

Total training program duration was of eight weeks.

Five days a week training session.

Training session was of 30-40 minutes/day.

ISSN 0976-1101
VOL-20, ISSUE(1)

Beej mantra (RAM) and chakra's colour (YELLOW/ORANGE) were used as chakra meditation technique.

Analysis of Data:

In order to see —A Comparative Effect of Different Variations of Chakra Meditation on Spleen Chakra of Athletes , 3X3 mixed (Between-Within) ANOVA was used as the statistical technique and level of significance was set at 0.05. The SPSS-20 software was used for analysis. The results have been depicted in the following tables:

RESULTS

Table 1

Descriptive Statistics of Spleen Chakra of Different Groups andTraining Durations of Chakra Meditation

Training Duration	Groups	Mean	S.D.	N
Pre-test	Beej Mantra	59.60	4.97	15
	Colour Meditation	60.93	5.19	15
	Control Group	61.20	5.20	15
Four Weeks	Beej Mantra	61.07	6.79	15
	Colour Meditation	60.60	4.81	15
	Control Group	60.47	5.22	15
Eight Weeks	Beej Mantra	63.13	6.31	15

ISSN 0976-1101
VOL-20, ISSUE(1)

Colour Meditation	65.13	4.87	15
Control Group	62.67	4.30	15

Table 1 shows the scores of mean and S.D. of spleen chakra of different groups and training durations of chakra meditation. The pre-test mean scores and S.D. of spleen chakra for the beej mantra meditation group, chakra colour meditation group and control group were 59.60±4.97; 60.93±5.19; 61.20±5.20 respectively.

After four weeks training duration, the mean scores and S.D. of spleen chakra for the beej mantra meditation group, chakra colour meditation group and control group were 61.07±6.79; 60.60±4.81; 60.47±5.22 respectively.

The mean scores and S.D. of spleen chakra after eight weeks of meditation training the beej mantra meditation group, chakra colour meditation group and control group were 63.13±6.31; 65.13±4.87; 62.67±4.30 respectively.

Table 2

F-Table for Training Durations (Within -Subject Effect) and Interaction Effect of Spleen Chakra

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	270.40	2.00	135.20	9.36	.00	.18

ISSN 0976-1101
VOL-20, ISSUE(1)

Time	*Sphericity	53.29	4.00	13.32	.92	.45	.04
Training	Assumed						
Variation							
Error	Sphericity	1212.9	84.0	14.44			
(Time)	Assumed	8	0				

*p-value < 0.05 is significant.

Table 2 shows that there was a significant main effect of training durations on chakra meditation as the p-value was 0.00 which was less than 0.05. It also shows that there was no significant interaction effect between groups and training durations as the p-value was 0.45 which was greater than 0.05.

Partial eta square in the above table explains 18% of variance of training durations and 4% of variance was explained by the interaction effect, which shows variance of interaction between training durations and groups. Partial eta square of training duration and interaction indicates low effect size.

Table 3

F- Table for Groups (Between-Subjects Effects) of Spleen Chakra

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Training Variation (Groups)	23.24	2.00	11.62	.20	.82	.01
Error	2387.02	42.00	56.83			

*F0.05> 3.23 (2, 42 df) is significant.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 3 shows that there was no significant main effect of groups (beej mantra meditation, chakra colour meditation and control group) on spleen chakra due to chakra meditation practice as the as the calculated F-value (0.82) was found to be less than the tabulated f value (F=3.23) with df 2, 42 at 0.05 level of significance (p-value > 0.05). Partial eta squared in the above table explains 1% of variance of groups, which indicates very low effect size.

To compare different training durations (i.e. pretest, after 4 weeks and after 8 weeks), pairwise comparisons were performed after Bonferroni adjustment, and the results are shown in the table underneath:

Table 4

Pairwise Comparisons between Training Durations of Spleen Chakra

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
pretest	4 weeks	-.13	.83	1.00	-2.21	1.94
	8 weeks	-3.07*	.80	.00	-5.07	-1.06
4 weeks	pretest	.13	.83	1.00	-1.94	2.21
	8 weeks	-2.93*	.77	.00	-4.84	-1.02

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 4 shows that there was significant difference were found between pretest- 8 weeks and 4 weeks- 8 weeks as the p-values were less than 0.05. However, no significant difference was found between pretest- 4 weeks as the p-value was greater than 0.05.

Graphical representation of spleen chakra for all the three experimental groups in all durations of training is shown in figure below:

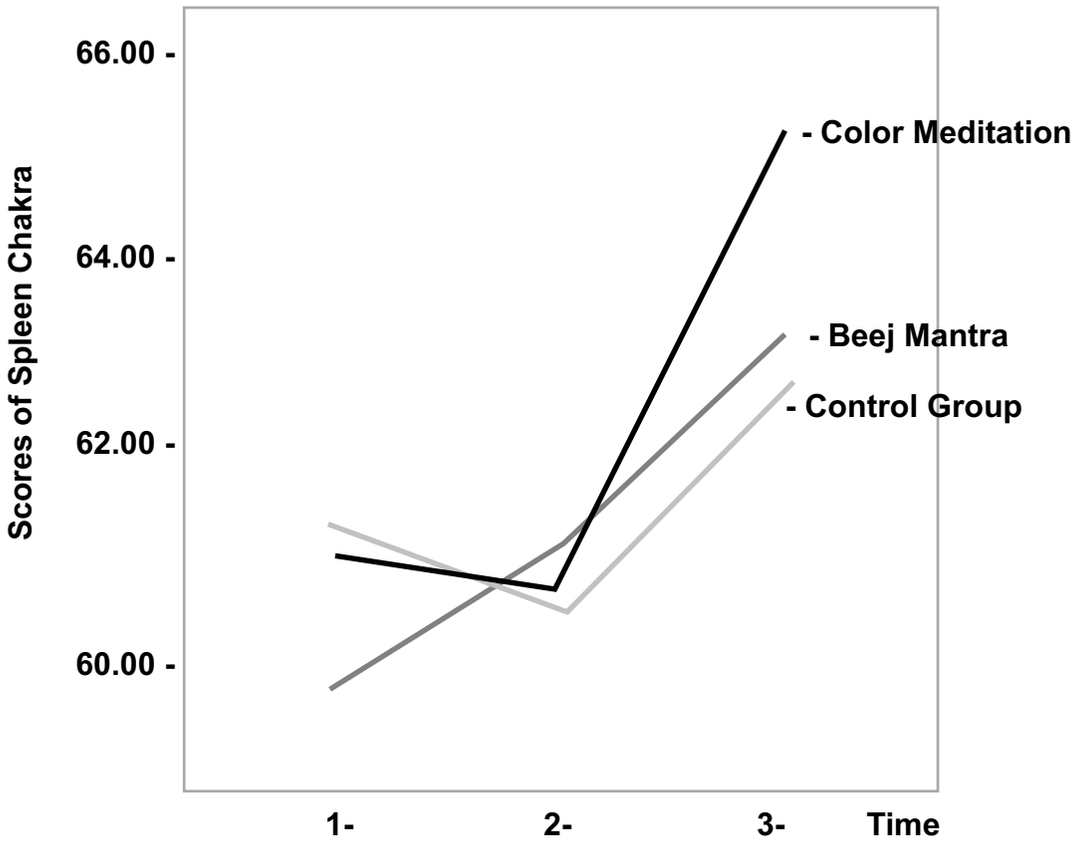


Figure: Graphical Representation of Different Groups with Training Duration of Spleen Chakra

On the basis of the finding we conclude that practice of chakra meditation for 8 weeks is sufficient to bring out significant

ISSN 0976-1101
VOL-20, ISSUE(1)

improvement in spleen chakra (main effect of training duration). In all the three groups the pattern of improvement in spleen chakra is almost similar after 4 and 8 weeks.

CONCLUSIONS

Practice of chakra meditation for 8 weeks was sufficient to bring out significant improvement in spleen chakra (main effect of training duration). There were no significant differences found among three groups (main effect of training variations of chakra meditation) on spleen chakra after 4 and 8 weeks of training duration and improvement in spleen chakra was almost similar after 4 and 8 weeks in all three groups (interaction effects insignificant). It means an individual can perform either mantra or colour meditation on chakras for eight weeks.

An imbalance or blockage in the Manipūra Chakra paralyses and destroys our energy and triggers diverse physical and psychic problems. If we are unable to think clearly, to express our thoughts and feelings or if our mind is foggy there is often a disturbance in the Manipūra Chakra. Numerous complaints such as Diabetes, skin diseases, cardio-vascular diseases, Gout, Arthritis, rheumatic diseases, many types of migraines, allergies and many more can trace their origin back to a lack of energy within the Manipūra Chakra and a badly functioning digestive system. The meditation on Manipūra Chakra controls our energy balance and supplies the digestive organs with energy.

REFERENCES

Fahrion, S.L., Wirkus, M., & Pooley, P. (1992). EEG amplitude, brain mapping, & synchrony in & between a

ISSN 0976-1101
VOL-20, ISSUE(1)

bioenergy practitioner & client during healing. *Subtle Energies*, 3(1), 19-52.

Green, E., & Fehmi, L. (1994). Comments— ―Cartography of consciousness: A functional re-examination of theta, alpha and beta.‖ by M. A. Tansey, K. H. Tachiki & J. A. Tansey. *Subtle Energies*, 5, 169-179.

Kalyani, G., et al, 2011). Neurohemodynamic correlates of 'OM' chanting: A pilot functional magnetic resonance imaging study. *International Journal of Yoga*, 4 (1), 3-6.

Lo, P., Huang, M., & Chang, K. (2003). EEG alpha blocking correlated with perception of inner light during Zen meditation. The American Journal of Chinese Medicine, 31, 629-642.

Magadhi, V. (2014).The effects of 6 weeks of training of Gayatri Mantra chanting on the aura of female athletes. *Unpublished MPEd thesis*, LNIPE, Gwalior.

Panday et al. (2011), ―The effect of yoga sadhana and pranic healing on pranic energy level of female prisoners . Retrieved from http://www.BioField Global Research Inc.html.on 25/02/2015.

Satchidananda, S. (1985). *Integral Yoga: The Yoga Sutras of Patanjali* (Illustrated). Integral Yoga Publications.

Tiller W. (1993) What are subtle energies? J. Sci. Explor., 7:293–304.

Yogiraj , Vethathiri Maharishi, (2005) Value of Yoga, Yoga for modern age, Vethathiri publications, (p.1 & 15).

ISSN 0976-1101
VOL-20, ISSUE(1)

RELATIONSHIP OF CARDIO METABOLIC RISK FACTORS & BLOOD SUGAR AMONG DIFFERENT AGE GROUPS IN SEDENTARY PERSONS.

NripendraMani Sharma, Research Scholar, LNIPE
Dr Brij Kishore Prasad, Asst. Professor, LNIPE
Dr Sanjeev Yadav, Asst. Professor, LNIPE

ABSTRACT

The Main Purpose of the Study was to determine the relationship of Cardio Metabolic Risk Factors i.e. Systolic Blood Pressure & Blood sugar among different age groups. Thirty-Six subjects working in Lakshmibai National Institute of Physical Education were selected as subjects for this study. The Age groups of the subjects were ranged from 30 to 64 years. The Measurement of Systolic Blood Pressure & Blood sugar levels were carried out in a Free Check Up Camp Organized by the Health Center of the Institute. The Data was collected by administering Digital blood Pressure Monitor & Blood Glucose Monitor .Pearson Product Moment Correlation Coefficient was employed to analyze the relationship Of Cardio Metabolic Risk Factors i.e. Systolic Blood Pressure & Blood sugar level among different age groups. By Using Pearson‘s Correlation it was found that there was Significant Correlation between Age and Systolic Blood Pressure ($p = 0.006$) at 0.01 Level of Significance which clearly indicated that with an increase in the Age of an individual the Systolic Blood Pressure will surely Rise. It can also be seen that with the increase in Blood Sugar level the Systolic Blood Pressure

ISSN 0976-1101
VOL-20, ISSUE(1)

will not rise as it is not Significant (p= 0.323) at 0.01 Level of Significance.

Keywords:Cardio Metabolic Risk Factors, Systolic Blood Pressure, Blood Sugar Level.

INTRODUCTION

An increase in blood pressure (BP) has alwaysbeen taken as an inevitable consequence of ageing in industrialized societies, leading to hypertension in a high proportion of elderlysubjects. However, the characterization and definition of what constitutes hypertension in the elderly has changed over the years. Data obtained during the Framingham Heart Study, which followed patients for 30 years, agreed that systolic blood pressure (SBP) shows a continuous increase between the ages of 30 and 84 years or over.

Having a healthy blood pressure is essential if the heart is to work properly and pump blood efficiently throughout the body. If it isn‘t working as well as it should be, the blood won‘t be distributing oxygen and essential nutrients to the cells and tissues as it should be. The performance of our cardiovascular systems naturally decreases as we age. This is unsurprising when you consider that there are so many variables associated with hypertension and old age. These include our cholesterol and blood pressure levels. According to the Mayo Clinic, hypertension is more common in middle aged men, with women being at higher risk after the menopause. There are several reasons high blood pressure increases as we get older including an older heart. Aging is inevitable which will affect the body‘s performance in

ISSN 0976-1101
VOL-20, ISSUE(1)

pumping blood. The natural pacemaker system in the heart regulates heart beats. As we age there is a greater likelihood that some of the pathways of the heart‘s pacemaker system will have fat deposits, which affect how the heart works.Degeneration of the heart muscle cells and thicker cell walls are other reasons the heart‘s aging might affect blood pressure. This can slow down the time the heart takes to fill with blood increasing pressure on the vessels.Blood vessels show a decreased performance as we age. These may be the most important variables whenit comes to hypertension and old age, since arteries tend to narrow and harden as we age. This could lead to clogged arteries, which could lead to serious repercussions such as strokes or heart attacks.The reduced elasticity of the blood vessels as we age can also be caused early on by poor diet or lack of exercise.

METHODOLOGY

Selection of Subjects: Thirty-six Male and Females Working in Lakshmibai National Institute of Physical Education, Gwalior were selected as subjects for the study. The Age group of the subjects ranged from 30-64 Years. The Institute Health Centre Organized a Free Health Check-up Camp in which all the subjects took part. All the subjects were the residents of the Institute and they had similar routine of work, diet, rest etc. Besides this all the subjects enjoyed good health as per the records Institute‘s Health Centre.The variables are Age, Blood Pressure and Blood Sugar.Initially the personal details of each subject was recorded i.e Age , Sex , Name etc .For the Purpose of Measuring the Blood Pressure Dr Morpen‘s Digital Blood Pressure Monitor was used and for

ISSN 0976-1101
VOL-20, ISSUE(1)

Determining the Blood Sugar Level in Blood Dr Morpen's GlucoMeter was used using Puncture Method. Below are the steps to use a digital monitor.

ANALYSIS OF DATA AND RESULTS

The statistical analysis of data collected on 36 Maleand Female Persons to measure the Relationship of Blood Pressure and Blood SugarLevel by administering Digital Blood Pressure Monitorand Glucometer test have been presented in this chapter. The data presenting Blood Pressure and Blood Glucos e Levelusing Digital Blood Pressure Monitorand Glucometer was examined by using Pearson Product Moment Correlation. The Pearson Product moment Correlation test values were tested for significance at 0.01 levels.

Findings

The mean, standard deviation and Correlation values were computed to analyze the data statistically. The results have been presented in the following tables: -

Table-1

Descriptive Statistics of Age, Blood Pressure and Blood Sugar

	Mean	***N***	***Std Deviation***
Age	46.97	36	8.43

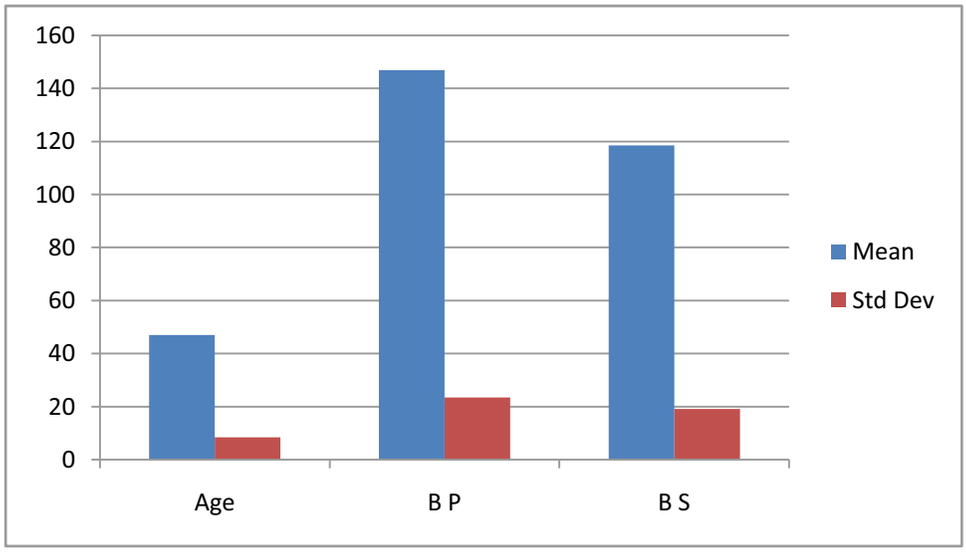
	Mean	***N***	***Std Deviation***
Blood Pressure	146.86	36	23.39

ISSN 0976-1101
VOL-20, ISSUE(1)

	Mean	***N***	***Std Deviation***
Blood Sugar	118.47	36	19.16

Table 1 indicates that the Mean and Standard Deviation of Age is 46.97+- 8.43. The Mean and Standard Deviation of Blood

Pressure 146.86+- 23.39. and further Mean and Standard Deviation of Blood Sugar is 118.47+-19.16.



Graphical representation of Age, Blood Pressure and Blood Sugar

ISSN 0976-1101
VOL-20, ISSUE(1)

Table 2

Correlation Table

		Age	Blood pressure	Blood Sugar
Age	Pearson Correlation	1	.452**	.137
	Sig. (2-tailed)		.006	.424
	N	36	36	36
Blood pressure	Pearson Correlation	.452**	1	.170
	Sig. (2-tailed)	.006		.323
	N	36	36	36
Blood Sugar	Pearson Correlation	.137	.170	1
	Sig. (2-tailed)	.424	.323	
	N	36	36	36

Table 2 indicates that with the increase in Age of a person Blood Pressure will raise as Blood Pressure is Significant. Further it indicates that with the increase in Blood Pressure of a person Blood Sugar will not raise as Blood Sugar is not significant.

ISSN 0976-1101
VOL-20, ISSUE(1)

RESULT

From the study it can be seenthat: With the increase in age of a person Blood Pressure will rise as Blood Pressure is Significant. With the increase in Blood Pressure of a person Blood Sugar will not rise as Blood Sugar is not Significant.

DISCUSSION ON FINDINGS

The major findings of the study are as follows:-

It can be seen that the increase in Age of a person Blood Pressure will raise as Blood Pressure is significant.It can be seen that with the increase in Blood Pressure of a person Blood Sugar will not rise as Blood Sugar is not Significant.

This is supported by PekkaIrkki (1999) which stated that an increase in risk factor levels was associated with age related increase in Coronary Heart Disease. Elisabete Pinto (2007) which further supported that the increase in Blood Pressure with Age is mostly associated with structural changes in the arteries and especially with the large arteries stiffness.Bownman TS(2005) concluded that the Systolic Blood Pressure was the most consistent and Significant Predictor of deaths due to cardiovascular diseases of all ages.Julie K.K (2012) conducteda study in which both Systolic Blood Pressure and Diastolic Blood Pressure≥71 mm Hg were significantly associated with stroke risk until age 62 years, but in subjects older than 46 years the superiority of for Systolic Blood Pressure stroke risk exceeded that of Diastolic Blood Pressure≥71 mm Hg and remained significant until age 78 years. Barnett (1999)both age and gender influence cardiovascular autonomic control, which in turn may influence

ISSN 0976-1101
VOL-20, ISSUE(1)

the ability to withstand adverse cardiac events and respond to orthostatic stress.

CONCLUSIONS

Based on the data collected and the research findings the following conclusions may be drawn: -

1. It can be concluded that with the increase in Age of a person Blood Pressure will raise as Blood Pressure is Significant.
2. It can be concluded that with the increase in Blood Pressure of a person Blood Sugar will not raise as Blood Sugar is not Significant.

REFERENCES

Verma J. P. (2011) –*Statistical Methods for sports and physical Education* TataMcGraw-HillPublication, New Delhi,P 66.

Barnett et.al (1999) Effects of Age and Gender on Autonomic Control of Blood Pressure Dynamics; Retrieved from https://www.ahajournals.org/doi/full/10.1161/01.hyp.33.5.1195

Pekka, Erkki (1999)Sex, Age, Cardiovascular Risk Factors, andCoronary Heart Disease: A Prospective Follow-Up Study of 14 786 Middle-Aged Men andWomen in Finland. Retrieved from https://www.ahajournals.org/doi/full/10.1161/01.cir.99.9.1165.

ISSN 0976-1101
VOL-20, ISSUE(1)

Thomas S. Bowman Howard D. Sesso J. Michael Gaziano(2006) "Effect of Age on Blood Pressure Parameters and Risk of Cardiovascular Death in Men *American Journal of Hypertension*, Volume 19(1):7–52. *Available at* https://doi.org/10.1016/j.amjhyper.2005.06.024

Elisabete Pinto (2007) "Blood pressure and ageing Postgrad *Med J*; 83: pp 109–114. doi: 10.1136/pgmj.2006.048371.

Julie K.K. et.al (2012) "Impact of Age on the Importance of Systolic and Diastolic Blood Pressures for Stroke Risks" The Monica, Risks, Genetics, Archiving and Monograph (MORGAM) Project ;60:1117-1123.Available at http/10.1161/Hypertensionaha 112.200.

ISSN 0976-1101
VOL-20, ISSUE(1)