ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Effect of Yogic Practice and SAQ training on Selected Physical Fitness Variables of Students with Hearing Impairment

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Received 16th November 2016, Accepted 10th December 2016

Abstract

The purpose of the study is to find out the effect of yogic practice and SAQ training on selected physical fitness variables of students with hearing impairment. For this study, forty five hearing impairment men students were selected as subjects from who were hearing impairment students in Industrial Training Institute, Ramakrishna Mission Vidyalaya, Coimbatore, Tamil Nadu, Infant Jesus Higher Secondary School, P.N.Palayan, Coimbatore, Tamil Nadu and Deaf School, Coimbatore, Tamil Nadu. The study would be confined to hearing impairment men students between the age group of 12 to 18 years.The following criterion variables were selected for the study namely speed and agility. The training period was twelve weeks of three alternative days in every week. Data were collected from each subject before and after the twelve weeks of yogic practice and SAQ training. The collected data were statistically analyzed by using "t' ratio, 'f' ratio and Scheffe's post hoc test. It is concluded that there is a significant difference in speed and agility due to SAQ training, and Combined training of students with hearing impairment. And also it is concluded that there is a significant difference among yogic practice, SAQ training and combined training groups on speed and agility of students with hearing impairment.

Keywords: Yoga, SAQ training, hearing impairment, physical fitness, speed, agility.

Introduction

Yoga is a philosophy of life, based on certain psychological facts, and its aim is to development of a perfect balance between the body and mind, that permits union with the divine bliss. A perfect hormone between the individual and the cosmos. People from all walks of life that arrived at the highest degree of knowledge through the discipline of yoga – which carrying on their various occupations. (Chandrashekar, K. 2007). Yoga provides one of the best means of self – improvement and helps to attain one's full potential. In the advanced stages of yoga the super conscious states are attained which results feeling of bliss, deep peace and the emergence of psychic powers. Yoga was developed and perfected over the centuries by the philosophers and the mystics in India. It ia basic method of increasing the body's supply of energy and removes any interference to the transmission of energy throughout the body. Yoga has specialized in this subject for thousands of years, and stream lined the methods to attain the self improvements in all the way of human life style. (Braj Bihari Nigam, 2001).

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Materials and Methods

Selection of Subjects

For this study, forty five hearing impairment men students were selected as subjects from who were hearing impairment students in Industrial Training Institute, Ramakrishna Mission Vidyalaya, Coimbatore, Tamil Nadu, Infant Jesus Higher Secondary School, P.N.Palayan, Coimbatore, Tamil Nadu and Deaf School, Coimbatore, Tamil Nadu. The study would be confined to hearing impairment men students between the age group of 12 to 18 years.

Selection of variables

The following criterion variables were selected for the study

Independent variables

- Yogic practice
- SAQ training
- Combined training

Dependent variables

- Speed
- Agility

Tools and Techniques

- Speed was measured 50m dash test and the unit of measurement is seconds.
- Agility was measured by 10 m shuttle run test and the unit of measurement is seconds.

Training Programme

The training period was twelve weeks of three alternative days in every week. Data were collected from each subject before and after the twelve weeks of yogic practice, SAQ training and combined training.

List of Asana and Pranayama

Tadasana, Konasana, ArdhakattiChakarasana, Pathahastasana, Vruksasana, Padmasana, Vajrasana, Yoga Mudra, Paschimotasana, Matsyasana, Shalabasana, Bhujangasana, Dhanurasana, Halasana, Shashangasana, Nadisuddhi, NadiShodhana, Kapalabhati, Bhramari, Bhastrika, Sitali, Sitkari, Ujjyai,

List of SAQ Training Exercises

Speed drills, Agility drills, Box drills, Speed and agility ladder drills, Dot drills, Line drills, Square drills, Cone drills, Movement drills, Running – Front drills, Miscellaneous drills, Up hills sprints.

Statistical Procedure

't' ratio was used to find out the significant difference between the pre -test and post test of all the three groups and Analysis of covariance was applied to determine the significance of mean difference among three groups. the scheffe's test for the differences between the adjusted post test paired means on all variables In all cases, the criterion for statistical significance was set at 0.05 level of confident ($P \leq 0.05$).

Results and Discussion

Result of speed

The data obtained on speed as a result of yogic practice and SAQ training and combined training were analyzed using 't' ratio are presented in table -I

Table I. Significance of mean gains & losses between pre and post test scores on speed of yogic practice SAQ training group and combined training group

Group	Pre Test mean	Post Test mean	Mean diff.	Std. Dev	Std. Er. of mean	't' ratio
Yogic practice group	7.598	7.621	0.022	0.119	0.031	0.735
SAQ group	14.302	13.060	1.242	0.808	0.208	5.949*
Combined training group	7.571	7.091	0.481	0.221	0.057	8.428*

(Table value for 0.05 level for df(1,14) = 2.144)

An examination of table – I indicates that speed the obtained 't' ratios are 0.735, 5.949 and 8.428 for yogic practice group, SAQ training group and combined training group respectively. The obtained 't' ratios of speed SAQ Training group, combined training group are found to be higher than the required table value of 2.144 at 0.05 level of significance for 1, 14 degrees of freedom. The obtained 't' ratios of speed of yogic practice group is found to be lesser than the required table value of 2.144 at 0.05 level of significance for 1, 14 degrees of freedom. The results of the study show that there is a significant difference between pre and post-test on speed due to SAQ training group and combined training group. Further, it shows that there is no significant difference between pre and post-test on speed due to yogic practice group.

Table II. Computation of analysis of covariance of yogic practice SAQ training and combined training groups on speed

	YP Group	SAQ Group	CT Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	7.598	7.580	7.571	**BG**	0.006	2	0.003	0.035
				WG	3.321	42	0.079	
Post-Test Means	7.621	7.338	7.091	**BG**	2.110	2	1.055	13.765*
				WG	3.219	42	0.077	
Adjusted Post-Test Means	7.613	7.340	7.097	**BG**	1.993	2	0.996	18.179*
				WG	2.247	41	0.055	

An examination of table – II indicates that the results of ANCOVA for pretest scores of the yogic practice, group SAQ training group and combined training group. The obtained F-ratio for the pre-test is 0.035 indicating that the random sampling is successful and the table F-ratio is 3.219. Hence the pre-test mean F-ratio is insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. The obtained F-ratio for the post-test is 13.765 and the table F-ratio is 3.219. Hence the post-test mean F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 42. The adjusted post-test means of yogic practice group SAQ training group, and combined training group are 7.340, 7.613 and 7.097 respectively. The obtained F-ratio for the adjusted post-test means is 18.179 and the table F-ratio is 3.225. Hence the adjusted post-test mean speed F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 41. Pre test, post test and adjusted post test mean difference of the yogic practice group, SAQ training group and combined training group on speed is presented in Figure 1.

Figure I. Bar diagram showing the pretest posttest and adjusted posttest mean differences of yogic practice saq training and combined training groups on speed

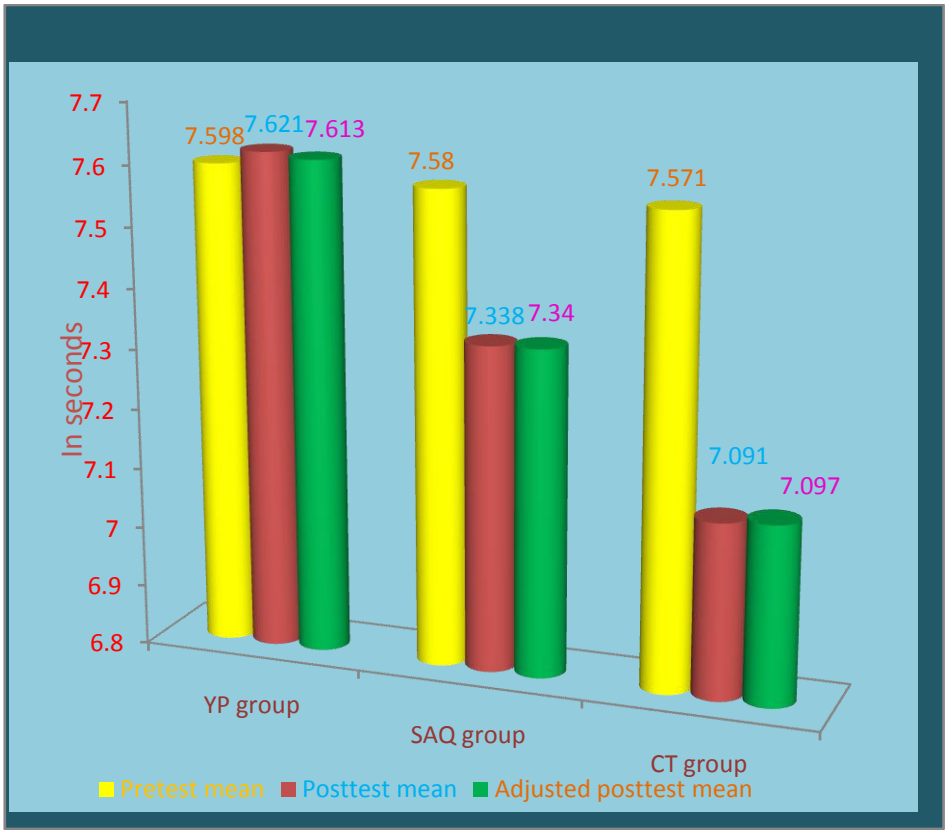

Table III. The scheffe's test for the differences between the adjusted post test paired means on speed

YP Group (N=15)	SAQ Group (N=15)	CT Group (N=15)	Mean Difference	CI value
7.613	7.340		0.273*	0.218
	7.340	7.097	0.243*	
7.613		7.097	0.516*	

*Significant

Table -III shows the ordered adjusted means and difference between the means of yogic practice group, SAQ training group and combined training group. The mean values of yogic practice group, SAQ training group and combined training groups are 7.613, 7.340 and 7.097 respectively. The mean differences between yogic practice group, SAQ training group and combined training groups are 0.273, 0.243and 0.516 respectively.

Hence there is a significant difference seen in yogic practice group and SAQ training group; SAQ training group and combined training group; yogic practice group and combined training group. The results of the shows that combined training group is better than SAQ training group and yogic practice group; SAQ training group is better than yogic practice group for improving speed of hearing impairment students.

Result of agility

The data obtained on agility as a result of yogic practice, SAQ training and combined training were analyzed using 't' ratio are presented in table – IV.

Table IV. Significance of mean gains & losses between pre and post test scores on agility of yogic practice SAQ training and combined training groups

Group	Pre Test mean	Post Test mean	Mean diff.	Std. Dev	Std. Er. of mean	't' ratio
Yogic practice group	14.260	14.234	0.026	0.054	0.014	1.924
SAQ group	14.302	13.060	1.242	0.808	0.208	5.949*
Combined training group	14.287	12.129	2.158	1.005	0.259	8.317*

(Table value for 0.05 level for df(1,14) = 2.144)

An examination of table – IV indicates that agility the obtained 't' ratios are 1.924, 5.949 and 8.317 for yogic practice group, SAQ training group and combined training group respectively. The obtained 't' ratios of agility SAQ Training group, combined training group are found to be higher than the required table value of 2.144 at 0.05 level of significance for 1, 14 degrees of freedom. The obtained 't' ratio of agility of yogic practice group is found to be lesser than the required table value of 2.144 at 0.05 level of significance for 1, 14 degrees of freedom. The results of the study show that there is a significant difference between pre and post-test on agility due to SAQ training group and combined training group. Further, it shows that there is no significant difference between pre and post-test on agility due to yogic practice group.

Table V. Computation of analysis of covariance of yogic practice saq training and combined training groups on agility

	YP Group	SAQ Group	CT Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	14.261	14.303	14.287	**BG**	0.014	2	0.007	0.007
				WG	43.194	42	1.028	
Post-Test Means	14.234	13.061	12.129	**BG**	33.369	2	16.684	16.912*
				WG	41.435	42	0.987	
Adjusted Post-Test Means	14.250	13.047	12.127	**BG**	34.017	2	17.008	35.423*
				WG	19.686	41	0.480	

An examination of table – V indicates that the results of ANCOVA for pretest scores of the yogic practice group, SAQ training group and combined training group. The obtained F-ratio for the pre-test is 0.007 indicating that the random sampling is successful and the table F-ratio is 3.219. Hence the pre-test mean F-ratio is insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. The obtained F-ratio for the post-test is 16.912 and the table F-ratio is 3.219. Hence the post-test mean F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 42. The adjusted post-test means of yogic practice group, SAQ training group and combined training group are 14.250, 13.047 and 12.127 respectively. The obtained F-ratio for the adjusted post-test means is 35.423 and the table F-ratio is 3.225. Hence the adjusted post-test mean agility F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 41. Pre test, post test and adjusted post test mean difference of the yogic practice group, SAQ training group and combined training group on agility is presented in Figure II.

Figure II. Bar diagram showing the pretest, posttest and adjusted posttest mean differences of yogic practice SAQ training and combined training groups on agility

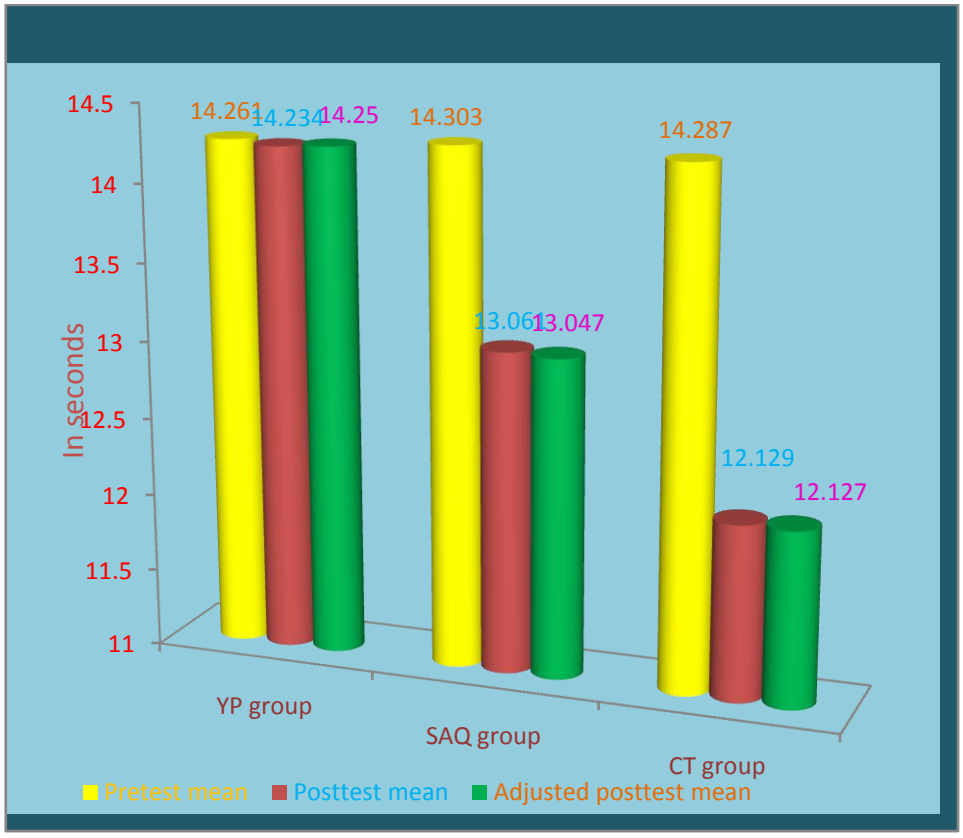

Table VI. The scheffe's test for the differences between the adjusted post test paired means on agility

YP Group (N=15)	SAQ Group (N=15)	CT Group (N=15)	Mean Difference	CI value
14.250	13.047		1.203*	0.643
	13.047	12.127	0.920*	
14.250		12.127	2.123*	

*Significant

Table -VI shows the ordered adjusted means and difference between the means of yogic practice group, SAQ training group and combined training group. The mean values of yogic practice group, SAQ training group and combined training groups are 2.905, 2.544 and 2.096 respectively. The mean differences between yogic practice group, SAQ training group and combined training groups are 1.203, 0.920, and 2.123 respectively. Hence there is a significant difference seen in yogic practice group and SAQ training group; SAQ training group and combined training group; yogic practice group and combined training group. The results of the shows that combined training group is better than SAQ training group and yogic practice group; SAQ training group is better than yogic practice group for significant difference agility of hearing impairment students.

Discussion on Findings

The outcomes of the study show that there is a significant difference in speed due to SAQ training and combined training and there is no significant difference due to yogic practice. Further the results of the study indicated that there is a significant difference among yogic practice group, SAQ training group and combined training group in speed. Also showed that combined training is better than Yogic practice and SAQ training; SAQ training is better than Yogic practice to improve the speed. The results of this study coincide with these made by Senthil kumar (2015); Senthil kumar (2015); Gains & Swedenhjelm (2010); Polman & Bloomfield (2009); Bloomfield & Polman, (2007) Munro & Herrington.

Conclusion

1. It is concluded that SAQ training and combined training significant difference in speed and agility of students with hearing impairment.
2. It is concluded that there is no significant difference in speed and agility due to yogic practice.
3. It is concluded that there is a significant difference among yogic practice group, SAQ training group and combined training group in speed and agility of students with hearing impairment.
4. It is concluded that combined training is better than yogic practice and SAQ training for significant difference speed and agility of students with hearing impairment.
5. It is concluded that SAQ training is better than yogic practice for significant difference inspeed of students with hearing impairment.
6. It is concluded that yogic practice is better than SAQ training for significant difference in agility of students with hearing impairment.

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Please cite this article as: M. Ravi, Dr. M. Srinivasan. Effect of Yogic Practice and SAQ training on Selected Physical Fitness Variables of Students with Hearing Impairment. *International Journal of Recent Research and Applied Studies*, 2016, 3, 12(18), 78-83.