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PRANAYAMA EFFECTS ON SELECTED RESPIRATORY PARAMETERS AMONG UNIVERSITY MEN STUDENTS

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Abstract

The purpose of the study was to find out the effect of pranayama on selected respiratory parameters. To achieve this purpose of the study, thirty students studying master degree in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu, and India were selected as subjects at random. The selected subjects were divided into two equal groups of fifteen subjects each, such as pranayama group and control group. The group I underwent pranayama practice fo9r three days per week for twelve weeks. Group II acted as control who did not participate any special training programmes apart from their regular physical education activities as per their curriculum. Among respiratory parameters, the following variables such as breath holding time and vital capacity were selected as criterion variables. All the subjects of two groups were tested on criterion variables by using holding the breath for time and wet spiro meter respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any between the groups. The level of significance to test the 'F' ratio obtained by the Analysis of Covariance was tested .05 level of confidence, which was considered as an appropriate. The results of the study revealed that there was a significant difference between pranayama group and control group on selected respiratory parameters namely Breath Holding Time and Vital Capacity. And also it was found that there was a significant improvement on selected respiratory parameters due to pranayama practice.

Keywords: Pranayama, Respiratory Parameters, Men.

INTRODUCTION

The modern age is the age of science and technology. Man gets all his comforts in life from machines. At this stage of development it is not only difficult to do away with machines but also impossible to keep man alive without them. For this dependence, there has been deterioration in human physical efficiency. Modern man in comparison to his primitive counterpart is poorer and inferior with regard to physical power and skill. Therefore, in the centers of learning, emphasis is now given on physical activities.

METHODOLOGY

The purpose of the study was to find out the effect of pranayama on selected respiratory parameters. To achieve this purpose of the study, thirty students studying master degree in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu, and India were selected as subjects at random. The selected subjects were divided into two equal groups of fifteen subjects each, such as pranayama group and control group. The group I underwent pranayama practice fo9r three days per week for twelve weeks. Group II acted as control who did not participate any special training programmes apart from their regular physical education activities as per their curriculum. Among respiratory parameters, the following variables such as breath holding time and vital capacity were selected as criterion variables. All the subjects of two groups were tested on criterion variables by using holding the breath for time and wet spiro meter respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any between the groups. The level of significance to test the 'F' ratio obtained by the Analysis of Covariance was tested .05 level of confidence, which was considered as an appropriate.

TRAINING PROGRAMME

The pranayama group underwent pranayama practice for three days per week for twelve weeks. Training was given in the morning session. The training session includes to practicing Kapalabhathi, a Kriya to cleanse the respiratory track, before doing pranayama. Every day the workout lasted for 45 to 60 minutes approximately. The subjects underwent pranayama practice under the strict supervision of the investigator. During experimental period control group did not participate in any of the special training.

ANALYSIS OF THE DATA

The influence of pranayama practice on each criterion variables were analyzed separately and presented below. The analysis of covariance on Breath Holding Time of the pre and post test scores of

pranayama group and control group have been analyzed and presented in Table I.

TABLE I
ANALYSIS OF COVARIANCE OF THE DATA ON BREATH HOLDING TIME OF PRE AND POST TESTS SCORES OF PRANAYAMA GROUP AND CONTROL GROUPS

TEST	PRANAYAMA GROUP	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED 'F' RATIO
PRE TEST							
MEAN	40.06	40.41	**BETWEEN**	1.87	1	1.87	1.35
S.D	1.21	1.09	**WITHIN**	38.99	28	1.39	
POST TEST							
MEAN	43.61	40.81	**BETWEEN**	55.78	1	55.78	40.57*
S.D	1.02	1.08	**WITHIN**	31.85	28	1.375	
ADJUSTED POST TEST							
MEAN	44.73	41.91	**BETWEEN**	68.01	1	68.01	198.86*
			WITHIN	9.26	27	0.342	

*Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.21 respectively).

The table I show that the adjusted post-test means of pranayama practice group and control group on Breath Holding Time are 44.73 and 41.91 respectively. The obtained 'F' ratio of 198.86 for adjusted post test means is greater than the table value of 4.21 for df 1 and 27 required for significance at .05 level of confidence on Breath Holding Time. The results of the study indicated that there was a significant difference between the adjusted post-test means of pranayama group and control group on Breath Holding Time. The analysis of covariance on Vital Capacity of the pre and post test scores of pranayama group and control group have been analyzed and presented in Table II.

TABLE II
ANALYSIS OF COVARIANCE OF THE DATA ON VITAL CAPACITY OF PRE AND POST TESTS SCORES OF PRANAYAMA GROUP AND CONTROL GROUPS

TEST	PRANAYAMA GROUP	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED 'F' RATIO
PRE TEST							
MEAN	202.11	202.61	**BETWEEN**	0.48	1	0.48	0.40
S.D	1.09	1.18	**WITHIN**	33.69	28	1.20	
POST TEST							
MEAN	205.31	202.18	**BETWEEN**	57.02	1	57.02	41.93*
S.D	1.08	1.20	**WITHIN**	38.11	28	1.36	
ADJUSTED POST TEST							
MEAN	205.20	202.51	**BETWEEN**	58.15	1	58.15	42.14*
			WITHIN	37.21	27	1.38	

*Significant at .05 level of confidence.

The table II show that the adjusted post-test means of pranayama practice group and control group on Vital Capacity are 205.20 and 202.51 respectively. The obtained 'F' ratio of 42.14 for adjusted post test means is greater than the table value of 4.21 for df 1 and 27 required for significance at .05 level of confidence on Vital Capacity. The results of the study indicated that there was a significant difference between the adjusted post-test means of pranayama group and control group on Vital Capacity.

RESULTS

1. There was a significant difference between pranayama group and control group on Breath Holding Time and Vital Capacity.
2. There was a significant improvement on selected respiratory parameters due to pranayama practice.

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