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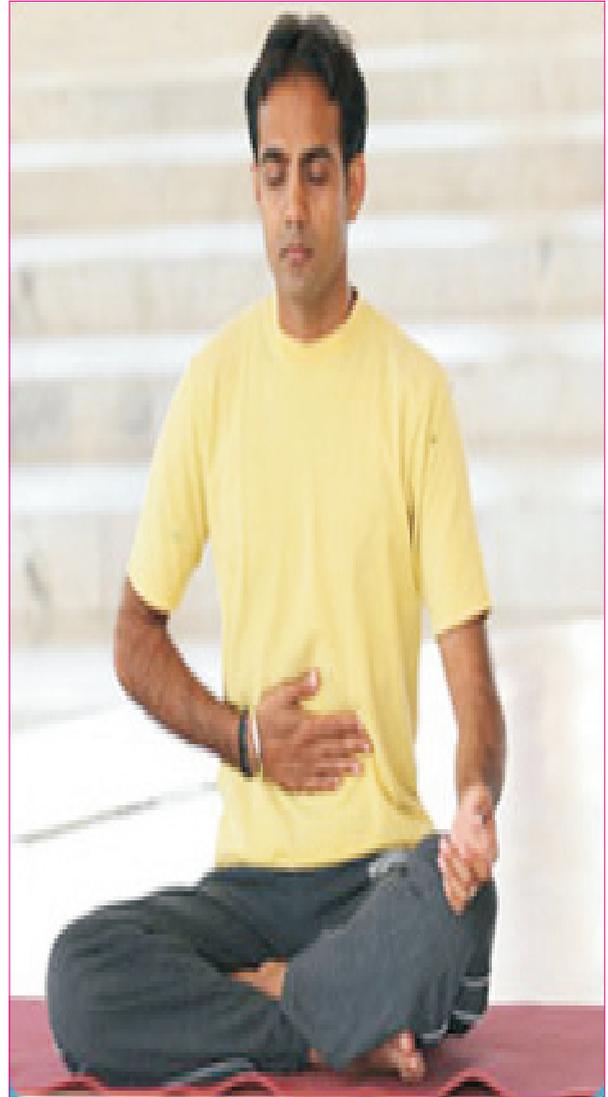
COMPARATIVE EFFECT OF KAPALBHATI AND CORE MUSCLE EXERCISES ON CHOLESTEROL OF MALE STUDENTS OF CHANDAULI DISTRICT

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ABSTRACT

Introduction: it is an essential substance for the body's normal functioning, but if levels in the blood get too high, it becomes a silent danger that puts us at risk of a heart attack. **Objectives:**1) To characterize the level of cholesterol in male students of KPTGPG College, Chandauli before and after the treatment. 2) To find out the significant difference among the adjusted means of two experimental group and control group in relation to cholesterol **Method:** Forty five male students (mean age 19.4 ± 2.3 y) were randomly assigned to a Kapalbhati Group (KBHG=15) or a core muscle exercises group (CMEG=15) or a control group (CG=15). Sessions were conducted 6 days a week for 12 weeks in the morning with respect to core muscle exercises and Kapalbhati Kriya. Tanita Inner scans Monitor Segmental Analysis BC 601" was used to measure Cholesterol for this study. Statistical significance among three treatment group was determined using ANCOVA and



Descriptive test to characterize the level of cholesterol. **Result.** The adjusted means of Kapalbhati Group, CMEG and CG were 52.22, 57.55 and 53.90 respectively. F value was found 3.66 at 2, 41 df at .05 level of significance. **Conclusions:** 1) Significant difference was found between the adjusted means of the core muscle exercise and Kapalbhati Kriya in relation to cholesterol. 2) Insignificant difference was found between Kapalbhati Kriya and Control group in relation to cholesterol. 3) Hence it may be inferred that Kapalbhati Kriya was more effective in comparison to core muscle exercises and Control group.

KEYWORDS: Core muscle exercise, Kapalbhati, Cholesterol

INTRODUCTION :

Unless nerves are purified it is not wise to do Pranayama. There are two types of nerves in our body. One is Prana-Vahini nerves and other one is Dravya Vahini nerves. For Pranayama purification of these both nerves is essential. Because when we do Pranayama it is used to be our efforts to send prana to each and every all every

cells of the body. It is only possible when nerves are purified [1]. Due to busy and perplexed nerves with abstraction of impurity air cannot flow properly hence, pranayama is followed lay purification of nerves. There are two ways to purity nerves. 1)Douti is done 2) Mantras are used. Under Nirmanu work of Dhauti is used and under samanu mantras are used for the purification of body. Kapalbhathi is of three kinds 1)Vat karm(vama kram) kapalbhati 2)Beyut kram kapalbhati 3)Shit kram kapalbhati [2]. Kapalbhathi Kriya is very good and easy one. To inhaling of the air with left nostril without holding and exhaling of the air from the right nostril without holding and again inhaling from the right and exhaling from the left nostril without holding. There is no holding in it rest may be taken after each one if you feel so. It should be repeated again and again but slow and steadily [3].

OBJECTIVES OF THE STUDY

- ✦ To characterizing the level of cholesterol in male students of Pt. Kamalapati Tripathi Govt PG College, Chandauli before and after the treatment of Kapalbhathi and Core muscle exercises i.e. swiss ball, wobble board and balance disc.
- ✦ To find out the comparative effect of Kapalbhathi and core muscle exercises on cholesterol of male students of Chandauli District. (To find out the significant difference among the adjusted means of two experimental group and control group in relation to cholesterol).

METHODS AND MATERIALS

Students of Pt. Kamalapati Tripathi Govt PG College, Chandauli who were actively participated in sports and extracurricular activities selected as a subjects. They took treatment under the supervision of Yoga Expert and Physical Education teacher in Pt. Kamalapati Tripathi Govt PG College, Chandauli. Forty five male students (mean age $19.4 \pm 2.3y$) were purposive selected from 750 male students. They were divided randomly into three groups viz. Two experimental group and one control group, each group was consisting of fifty male students. After discussing with the experts the duration and repetition of each selected core muscles exercises were fixed. Core muscle exercises were done through swiss ball, wobble board and balance disc. The male students did curl ups on swiss ball vs stable bench in slow and controlled pace sustaining constant tension. Kapalbhathi (Nadi Shodhan Kriya) was given every day in morning time except Sunday. The total duration of the treatment was six weeks. It can be easily learned by anyone regardless of age, educational background, or culture. The technique is effortless and requires neither belief nor any change in life-style or diet. "Tanita Inner scan Monitor Segmental Analysis BC 601" was used to measure Cholesterol for this study. The reliability of instrument will be established by test – retest method, using the product moment correlation [4].

ANALYSIS AND INTERPRETATION OF DATA

To determine which of the experimental treatment was most effective to reduce cholesterol in male students, the pre-test data, post test data were analyzed by descriptive statistics [5] as well as ANCOVA [6]. Descriptive statistics of pre-test data, Post- test data for cholesterol of two experimental groups and a control group are presented in table-I

Table-1

Descriptive statistics for Cholesterol of two experimental groups and one Control group

Groups	Pre Test		Post Test		Adjusted
	Mean	SD	Mean	SD	Mean
Core Muscle Exercises	53.26	7.91	57.57	5.31	57.55
Kapalbhati Kriya	54.20	5.91	52.25	4.65	52.22
Control group	50.26	6.19	53.86	6.16	53.90

Table -1 revealed that pre test mean, pre test SD, Post test mean, Post test SD and adjusted mean of three different groups namely; Two Experimental group and one control group. The pre test mean & SD of Core muscles exercises group was 53.26±7.91, pre test mean & SD of Kapalbhati group was 54.20±5.91, and pre test mean & SD of control group was 50.26±6.19. Post test mean & SD of Core muscle exercises group, Kapalbhati Group and control group was 57.57±5.31, 52.25±4.65 and 53.86±6.16 respectively. The adjusted mean of Core muscle exercises group was 57.55, adjusted mean of Kapalbhati group was 52.22 and adjusted mean of control group was 53.90. This table has shown in fig.1

Fig1

Graphical Representation of pre-test, post test mean and SD and Adjusted post test mean of Core muscle exercise , Kapalbhati Group & Control group

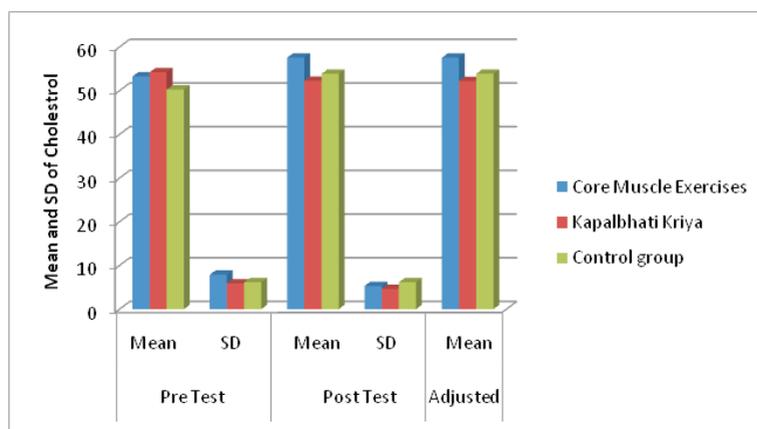


Table-2

Analysis of CO-Variance of Cholesterol of three different groups of male teachers of DAVV Indore

	SS	Df	MSS	F value	Sig.(p- value)
Treatment	218.916	2	109.458	3.667*	.034
Error	1223.676	41	29.846		

*Significant, $F_{.05}(2, 41) = 3.23$

Above table, revealed that cholesterol of three different group’s i.e. Core muscle exercise, Kapalbhati Group and Control group was significant because obtained F value (3.667) was greater than the required tabulated value (3.23) needed at .05 level of significance. Sig P value (.034) was also less than the .05.

Least significant difference (LSD) post hoc test was also employed to find out if any significant difference existed among three groups. The mean difference obtained between different group is presented below:-

Table-3

PAIR WISE MEAN COMPARISON OF CHOLESTEROL THRE DIFFERENT GROUPS OF MALE STUDENTS

(I) Treatment	(J) Treatment	Mean Difference (I-J)	Sig. ^a
Kapalbhati Kriya	Core muscle exercise	5.333*	.011
	Control group	3.655	.084
Core muscle exercise	Kapalbhati Kriya	-5.333*	.011
	Control group	-1.677	.411

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant difference (equivalent to no adjustments).

* The mean difference was significant at the .05 level

Above table showed significant difference was found between Core muscle exercise group and Kapalbhati Kriya Group. And also insignificant difference was obtained between Kapalbhati Kriya Group and control group, Core muscle exercise and control group.

DISCUSSION OF FINDINGS

On the basis of results it was concluded that Kapalbhati Kriya were more effective to reduce cholesterol in male students of Pt. Kamalapati Tripath Gov. PG College, Chandauli in comparison to Core muscle exercise group and Control group and this might be due to Kapalbhati Kriya is a Nadi Shodhan Kriya and It clean 84000 nadi in Human body, when all nadi of body is cleaned then the flow of blood smoothly run and there is less chances to store the cholesterol in human body . In 2005, the Buffalo Centre for Integrated Medicine in the US reported that relaxation methods like yoga can help to reduce bad cholesterol levels in the blood. There is a direct link between stress and bad cholesterol. Regular yoga practice reduces stress, which in turn lowers cholesterol levels .The present study was supported by the study conducted by Buffalo Centre (2005)[7]. Doctors used to believe it was only aerobic, endurance exercise that improved levels, but it turned out that we were wrong. A number of studies on resistance training have shown very powerful effects on cholesterol metabolism," says McBride. "Especially if you do moderate strength training at high frequency -- circuit training with 10 reps each cycle and three cycles of each circuit -- you can get very nice improvements in your triglycerides and HDL[8].

CONCLUSIONS

- 1) Significant difference was found between the adjusted means of the core muscle exercise and Kapalbhati Kriya in relation to cholesterol.
- 2) Insignificant difference was found between Kapalbhati Kriya and Control group in relation to cholesterol.
- 3) Hence it may be inferred that Kapalbhati Kriya was more effective in comparison to core muscle exercises and Control group.

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