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Effect of Yogic Practices on High Density Lipo Protein in Middle Aged Men

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Abstract
The present study was undertaken primarily to assess the effectiveness of yogic practices on HDL. For the study, 30 middle aged men aged between 35 and 40 years (mean ± S.D. 37.5 ± 1.5 years) were randomly selected. The selected subjects for the present study were divided into two groups, namely yogic practice group and control group. The control group was not given any training. The experimental group practiced yoga, weekly six days i.e. Monday to Saturday, between 6.00 A.M. to 8.00 A.M., for a period of twelve week. The results of this study showed that there was a significant difference between yogic practice group and control group on high density lipoproteins. Moreover, the result of the study also shown that there was a significant increase in high density lipoproteins after the yogic practice when compared with the control group.

Keywords: knowledge, menstrual hygiene, myth and taboos.

Introduction
Yoga has also been described as wisdom in work or skillful living amongst activities, harmony and moderation. "Yoga is not for him who gorges too much, nor for him who starves himself. It is not for him who steps too much, nor for him who stays awake. By moderation in eating and resting, by regulation in working and by concordance in sleeping and waking, yoga destroys all pain and sorrows".

Yoga is an ancient philosophical and religious tradition which is thought to have originated in India in at least 1000 B.C. It refers to a large body of values, attitudes and techniques whose primary objective is the pursuit of enlighten or self-knowledge. The word yoga is probably derived from the Sanskrit word "Yuj" which means to "unite" or "connect" and, in the higher levels of yoga, this is often said to mean the experience of union of the individual self with the universal self.

Methodology
The present study was undertaken primarily to assess the effectiveness of yogic practices on HDL. For the study, 30 middle aged men aged between 35 and 40 years (mean ± S.D. 37.5 ± 1.5 years) were randomly selected. The selected subjects for the present study were divided into two groups, namely yogic practice group and control group. The control group was not given any training. The experimental group practiced yoga, weekly six days i.e. Monday to Saturday, between 6.00 A.M. to 8.00 A.M., for a period of twelve week.

Estimation of HDL-Cholesterol
HDL – Cholesterol was estimated by using CHOD – PAP method recommended by Lopes – Virella *et al.* [1]

Serum must be separated from the blood clot as rapidly as possible.

Bottle 1: Cholesterol (reagent)

Dissolve Contents of one bottle 1 by adding 32 ml redistilled water.

Sample preparation: Precipitation – sample pipette into centrifuge test tubes 200 ml and precipitant 500 ml.

Mix and let it stand for 10 minutes at room temperature, then centrifuge for 10 minutes at 4000 rpm or more or for 2 minutes at 12000 rpm.

After centrifugation, separate the clear supernatant within two hours and determine the cholesterol content by the CHOD-PAP method.

Assay procedure:

Wave length: Hg 546 nm

Spectrophotometer: 500nm

Cuvette: 1 cm light path

Incubation temperature: 20 – 25 ^{0} c or 37 ^{0} c

One reagent blank is sufficient for each assay series. Redistilled water, pipette into test tube 100 ml of reagent blank supernatant pipette into test tubes with 100 ml of sample. Reagent solution pipette into test tubes with 1600 ml reagent blank and 1000 ml sample. Mix and incubate at 37 ^{0} c then measure absorbance of sample (A_{Sample}) against blank within one hour.

Calculation:

Wavelength – Hg 546 nm = 325.1 x A_{Sample}

500 nm = 219.2 x A_{Sample}

High Density Lipoproteins
The data collected prior to and after the experimental period on high density lipoproteins for yogic practice group and control group were analysed and presented in Table - 1.

Table 1: Analysis of Covariance on High Density Lipoproteins of Yogic Practice Group and Control Group

	Yogic Practice Group	Control Group	Source of Variance	Sum of Square	df	Mean Square	'F' ratio
Pre- test	41.60	43.33	Between	22.533		22.533	1.991
Mean	3.418	3.309	Within	316.933	1	11.319	

S.D.					28		
Post-test Mean S.D.	44.13 2.696	42.87 3.701	Between Within	12.033 293.467	1 28	12.033 10.481	1.148
Adjusted Post-test Mean	44.895	42.105	Between Within	54.491 48.798	1 27	54.491 1.807	30.15*

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

Table – 1 showed that the pre-test mean values of high density lipoproteins for yogic practice group and control group were 41.60 ± 3.418 and 43.33 ± 3.309 respectively. The obtained 'F' ratio value of 1.991 for pre test scores of yogic practice group and control group on high density lipoproteins was less than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence.

The post-test mean values for high density lipoproteins for yogic practice group and control group were 44.13 ± 2.696 and 42.87 ± 3.701 respectively. The obtained 'F' ratio value of 1.148 for post-test scores of yogic practice group and control group was lesser than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence.

The adjusted post-test mean values of high density lipoproteins for yogic practice group and control group were 44.895 and 42.105 respectively. The obtained 'F' ratio value of 30.15 for adjusted post-test scores of yogic practice group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level of confidence.

The mean values of yogic practice group and control group on high density lipoproteins were graphically represented in Figure - 1

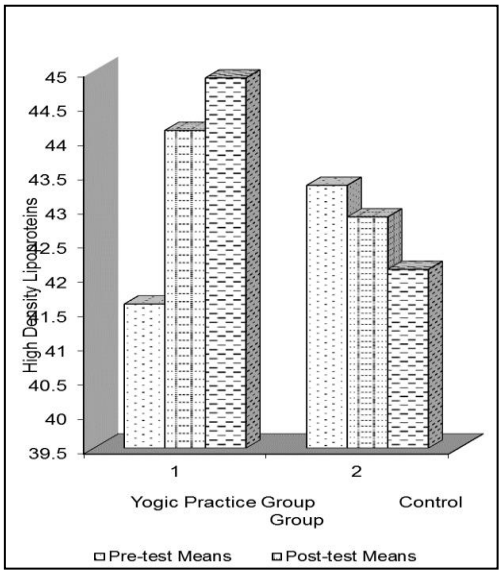

Fig 1: Bar Diagram Showing the Mean Values of Yogic Practice Group and Control Group on High Density Lipoproteins

Result

The results of this study showed that there was a significant difference between yogic practice group and control group on high density lipoproteins. Moreover, the result of the study also shown that there was a significant increase in high density lipoproteins after the yogic practice when compared with the control group.

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