Physiology

A COMPARATIVE STUDY OF TOBACCO CHEWING AND SMOKING ON LIPID PROFILE IN ADULTS

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ABSTRACT　To study the effect of tobacco on lipid profile in adults. **AIM:-**To study the effect of tobacco on lipid profile and OBJECTIVE:-To observe the changes in HR,BP,and serum lipid profile after chewing tobacco and smoking. MATERIALS AND METHODS:-The present study is conducted on male subjects of age between 25 to 35 years and weight between 50 to 70 kgs who were free of hypertension,diabetes,hypercholesterolemia ,obesity and non alcoholics dividing into 3 groups where in GROUP-1 Non smokers and non chewers of tobacco are included,in GROUP-2 smokers and non chewers are included ,in GROUP-3 chewers and non smokers are included. **RESULTS:-** Mean heart rate in group2 is greater than group1 by13% and the mean heart rate in group 3 is greater than group 1by 6.3%. The mean systolic blood pressure in group 2 is greater than group 1 by 10.29% and the mean systolic blood pressure of group 3 is greater than group 1 by 12.29%. The mean diastolic BP in group 2 is increased by 13% and group 3 is increased by2.32% compared to group 1. The mean serum total cholesterol levels is group 2 subjects is 16.94% and in group 3 subjects is 16.27% greater compared to group 1. The mean serum VLDL levels in group 2 subjects were 27.54% and group 3 subjects is 22.12% were greater compared to group 1 subjects. The mean serum LDL cholesterol levels in group 2 were 34.64% and group 3 were 35.35% higher compared to group 1 subjects. The mean serum HDL cholesterol levels in group 2 were 9.78% and group 3 were 11.82% lesser compared to group 1 subjects. The mean serum triglyceride levels in group 2 were 25.40% and group 3 were 23.21% greater compared to group 1 subjects. **CONCLUSION:-**There is an impending danger on tobacco usage in any form resulting in atherosclerosis and higher risk of coronary artery disease.

KEYWORDS : Smoking,tobacco chewing,lipids,cholesterol,coronary artery disease.

INTRODUCTION:-
Despite universal anti tobacco campaign tobacco use has become major public health problem and one of the largest preventable cause of death.Tobacco intake in any form is pathogenetically a cholesterol dependent risk factor and acts synergistically with each other risk factors in causation of coronary heart disease .According to WHO by the year 2020 coronary heart disease and stroke will occupy the first and fourth places in the leading causes of disability and mortality.Irrespective of vast study progress in identification of etiology and treatment of cardiovascular diseases people are still becoming prey to these diseases in developing countries like India.The harmful consequences of tobacco have been well recognised in terms of hypertension,coronary heart diseases and cancer.So the present study is done on the effect of tobacco on lipid profile in adults.

AIM:- To study the effect of smoking and tobacco chewing on lipid profile.

OBJECTIVE:-To observe changes in heart rate,blood pressure and serum lipid profile after chewing tobacco and smoking.

MATERIALS AND METHOS:-The present study is conducted on 75 male subjects of age between 25 to 35 years and weight between 50-70 kgs.The study population is divided into 3 groups-

GROUP1-Non smokers and non chewers of tobacco.
GROUP2-Smokers and non chewers of tobacco.
GROUP3-Tobacco chewers and non smokers.

All the study population were free of diseases like hypertension,diabetes mellitus,hypercholesterolemia and obesity.They are all non alcoholics.

The blood samples are collected after an overnight for about 14 hours.5 ml. of whole blood is collected and serum is separated.Serum lipid profiles are done and lipid levels are calculated.

RESULTS AND ANALYSIS:-Data is reported as mean and and standard deviation.The results are as follows-
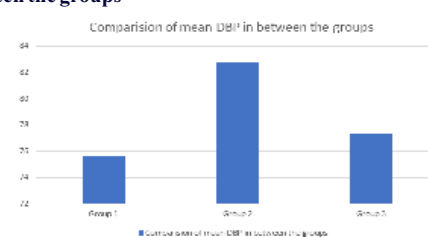
Figure no-1 :Comparision of mean heart rate in between the groups

Comparision of mean heart rate
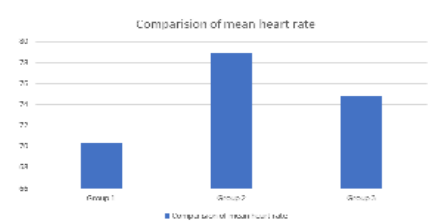
Figure no-2: Comparision of systolic blood preesure in between the groups

Comparison of mean SBP in between the groups

Figure 3: Comparision of mean diastolic blood pressure in between the groups
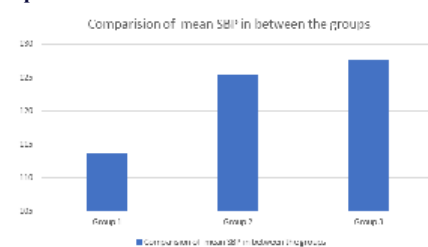
Comparison of mean DBP in between the groups

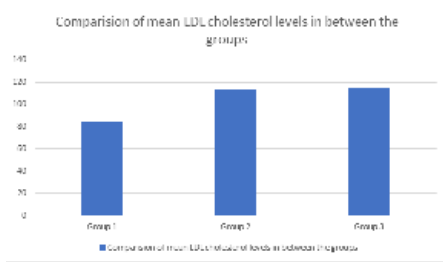**Figure 4:- Comparision of LDL cholesterol in between the groups**

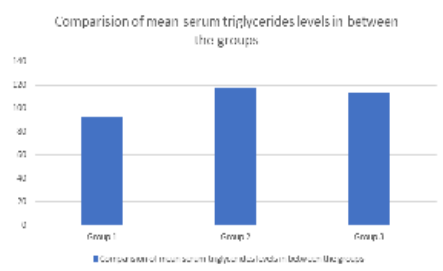**Figure 5:- Comparision of mean serum triglycerides levels in between the groups.**

Figure 6:- Comparision of mean serum HDL cholesterol levels in between the groups
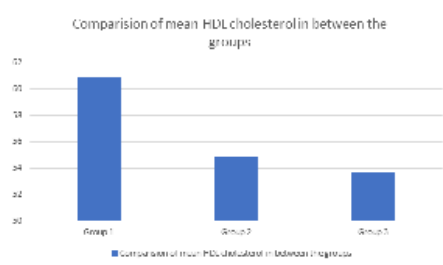

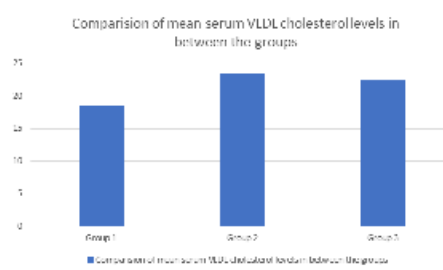**Figure 7:- Comparision of mean VLDL cholesterol levels in between the groups**

Figure 8:- Comparision of mean total cholesterol in between the groups

TABLE-1

	GROUP 1	GROUP 2	P -value
Heart rate	70.40	78.96	<0.01
SBP	113.70	125.40	<0.01
DBP	75.60	82.80	<0.01
LDL	84.52	113.80	<0.01
TRIGLYCERIDES	92.20	117.60	<0.01
HDL	60.88	54.92	<0.01
VLDL	18.44	23.52	<0.01
Total cholesterol	163.80	191.60	<0.001

Comparision of serum lipoprotein values in Group 1 and Group 2 subjects.

TABLE-2

	GROUP 1	GROUP 3	P-value
Heart rate	70.40	74.88	<0.01
SBP	113.70	127.70	<0.01
DBP	75.60	77.36	<0.01
LDL	84.52	114.40	<0.01
TRIGLYCERIDES	92.20	113.60	<0.01
HDL	60.88	53.68	<0.01
VLDL	18.44	22.52	<0.01
T.CHOLESTEROL	163.80	190.50	<0.01

DISCUSSION

Despite of vast knowledge experienced warning day by day yet the incidence of smoking is growing long with population.Though in educated sector the incidence is receding.Statistics do clearly show us the impending danger on the smoking population of the developing countries.

Tobacco has very bad influence on the total health system of the human being not only effecting the arteries or lung but almost effecting all the function system of the body from cell to cell.

Nicotine of tobacco causes the decrease in the HDL Cholesterol(good cholesterol) ,with an increasing the LDL cholesterol (bad cholesterol)and also increase in the VLDL cholesterol withaccumulation of lipids in the arterial wall this is responsible for greater risk of developing atherosclerosis in tobacco users than non-tobacco users.

Once again to remember though old but yet golden that prevention is better than cure as a very very applicable role as for as smoking is concerned.

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