



ABSTRACT

Cardiovascular disease (CVD) is now the leading cause of death worldwide, particularly in developing countries. Hypertension, smoking, and hyperlipidemia are known to be the general risk factors for these disorders. High cholesterol levels are responsible for 56 percent of ischemic heart disease and 18 percent of strokes worldwide, resulting in 4.4 million deaths per year. Fish is a good source of Omega-3 polyunsaturated fatty acids in the diet (PUFAs). PUFAs alter the lipid profile and aid in weight loss.

A population of 44 apparently healthy males was studied in this cross-sectional study. This study was carried out after a questionnaire was developed to assess the overall health status of a target male population selected randomly from Lahore. The sample population selected from Lah selection criteria were centred on a healthy population aged 22 to 45 years old with no known serious illnesses or medication use. The subjects were separated into two groups: one Experimental Group (n=22) who consumed 250g of uniform fish (*Labeo rohita*) fortnightly and one Control Group (n=22) who did not consume any fish. Lipid profile tests conducted at the pathology laboratory of Mayo hospital by using an automated analyser (Beckman coulter AU 680 Analyzer). This study was conducted for 3 months (12 weeks).

Independent t-Test and Analysis of variance (ANOVA) was used to observe the substantial differences in the results by the influence of fish diet. The subjects in the fish group showed a substantial reduction in BMI (9 percent; $p=0.000$), but the control group had no effect. A significant decrease in total Cholesterol (TC) (7%; $p= 0.043$) was also observed, with a no significant change in control group. There was a tendency to increase in HDL-C by (12%; $p= 0.011$) with a non-significant change in control group. LDL-C was decreased significantly by (9%; $p= 0.006$) in experimental group with no change in control group. 14% reduction in Triglycerides was also observed, with no significant change in experimental and control group. The findings imply that a high frequency of



fish consumption was linked to healthier lifestyle behaviors and lower non-HDL-C levels, and so could be part of a healthy lifestyle associated to a lower risk of CVD in males. It is indicated that the fish consumption may have a beneficial influence on lipid profile modification.

Keywords: Healthy Male Population, young to middle age Fish (*Labeo rohita*), Cardiovascular diseases, n-3 long chain polyunsaturated fatty acids (PUFA's), Lipid profile parameters (BMI, Total cholesterol, Triglycerides, Low-density Lipoprotein, High-density Lipoprotein), Beckman Coulter AU 680 Analyzer.