

Fasting Blood Lipid Levels in College Students Differ Throughout The Week

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The National Heart, Lung and Blood institute recently released updated lipid screening guidelines for children and adolescents. They recommend testing adolescents between the ages of 17 and 21. Early recognition of dyslipidemia is important for preventing arteriosclerosis and cardiovascular disease. **PURPOSE:** To determine if there are differences in blood lipids and glucose levels by day of the week. **METHODS:** Following an 8-hour fast, blood glucose and lipid levels were measured on 2559 college students via fingerstick. Data were imported into SPSS 23 for analysis. Lipid and glucose measures obtained on different days of the week were compared using one-way analysis of variance with Tukey's post-hoc test where appropriate. **RESULTS:** Significant differences were seen in triglycerides (TRI) ($F=12.6$; $p=0.000$), high-density lipoprotein cholesterol (HDL-C) ($F=5.5$; $p=0.000$) and low-density lipoprotein cholesterol (LDL-C) ($F=3.3$; $p=0.011$). In TRI, values obtained on Monday and Tuesday were significantly higher than those obtained on Wednesday, Thursday and Friday. LDL-C values obtained on Monday were significantly lower than those obtained on Thursday and Friday; conversely, HDL-C values were significantly higher on Monday than they were on Thursday or Friday. There was no difference in glucose levels or total cholesterol throughout the week. **CONCLUSION:** In college students, TRI levels decrease as the week progresses from Monday to Friday. Cholesterol levels, on the other hand, worsen throughout the week as HDL-C levels drop and LDL-C levels rise. These changes could have implications for cardiovascular disease development. The implications of weekend lifestyle choices related to diet and alcohol consumption in this population will be discussed.