Objectives: Type 2 diabetes mellitus (T2DM) occurs at a high prevalence in Saudi population. This study was conducted with the aim to determine the plasma lipid levels in Saudi individuals with T2DM and to compare them to the values obtained in the non-diabetic groups. Methods: A total of 3786 adult Saudis (males: 1429; females: 2356) were included in the study. 1902 were patients with T2DM. Height and weight were recorded and Body Mass Index was calculated. HbA1c, total cholesterol, triglyceride, low density lipoprotein and high density lipoprotein levels were measured and were compared among the two groups. Results: The lipid parameters in patients with T2DM compared to nondiabetic group showed: total cholesterol (mmol/L) (4.7±1.1 vs. 4.8±0.9, p=0.001), triglyceride (mmol/L) (1.8±1.1 vs. 1.4±0.8, p<0.0001), low density lipoprotein (mmol/L) (2.8±0.9 vs. 3.1±0.8, p<0.0001) and high density lipoprotein (mmol/L) (1.16±0.3 vs.1.2±0.3, p<0.0001). Female patients with type 2 diabetes mellitus were associated significantly with higher total cholesterol and low density lipoprotein and lower triglyceride. Younger patients with T2DM were associated significantly with higher total cholesterol and low density lipoprotein. Patients with body mass index >25 and T2DM were associated significantly with higher total cholesterol and low density lipoprotein and triglyceride. 47% and 42% of patients with T2DM did not meet the American diabetes association goals for the low density and triglyceride levels respectively. Higher HbA1c was associated significantly with higher serum total cholesterol, triglyceride. Conclusion: Since the prevalence of T2DM is high in Saudis and since hyperlipidemias is high in such group, it is essential to initiate control programmes in an attempt to reduce the morbidity associated with hyperlipidemic states.