

the study of oxidative stress and antioxidant status of diabetic patients who are in a high risk of CVD.

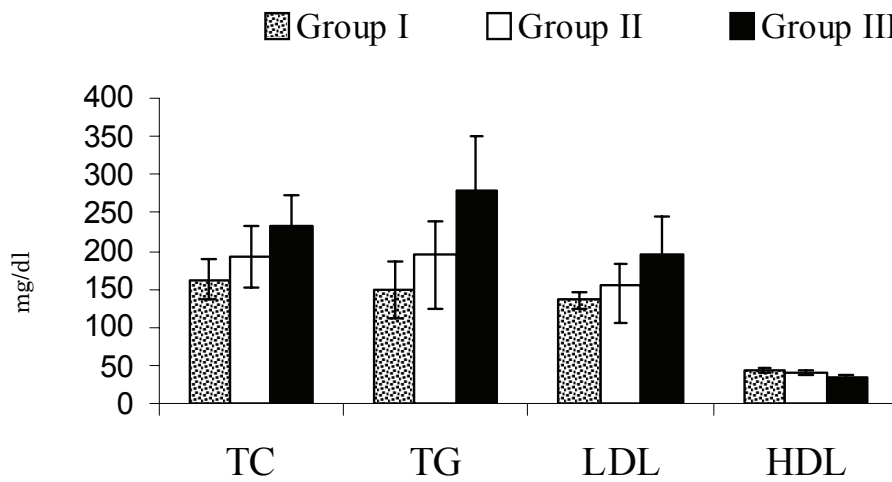
Chronic cigarette smoking is related to increased free radical production and plasma antioxidant depletion, making it one of the most potent stimuli of the oxidative process observed in humans and *in vitro*.<sup>11-13</sup> Several studies found lower plasma antioxidant concentration *in vivo*.<sup>14-16</sup> Free radicals are non-desirable molecules and they are physiologically generated in an organism and in some conditions their production rate increases in active or passive smoking. There is evidence that smoking is related to increased free radical production and antioxidant depletion.<sup>17</sup> Epidemiological studies showed that cigarette smokers consume fewer fruits and vegetables than non-smokers.<sup>18-20</sup> They also consume low vitamins supplements than non-smokers.<sup>21-23</sup> So the dietary habits for

low antioxidant concentration in plasma can not be overruled.

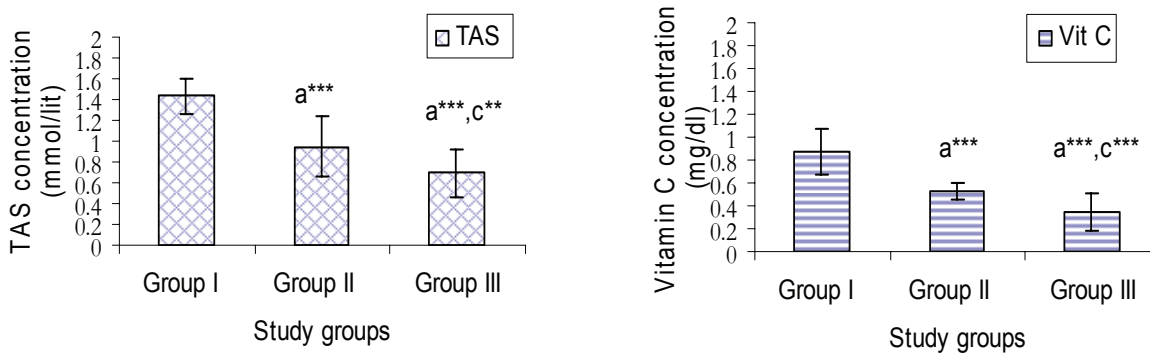
The present study was designed to investigate the effects of cigarette smoking on lipid peroxidation and antioxidant status in the plasma of type 2 diabetic patients.

**Materials and Methods**

**Subjects:** Sixty-five subjects, who attended the Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) in Bangladesh, between January 2005 and April 2006 were recruited for our study. They were divided in Group II and Group III as non-smoker diabetic patients (n=35) and smoker diabetic patients (n=30), respectively. Twenty healthy, age and BMI-matched volunteers were recruited in Group I.



**Figure 1:** Lipid profile status of different study groups Data are presented as mean±SD (standard deviation). Student’s t-test was performed to analyse data. <sup>a</sup>Versus non-smoker control (group-I), <sup>c</sup>Versus non-smoker diabetic patients (group-II). TC= total cholesterol, TG= triglyceride, LDL= low density lipoprotein, and HDL= high density lipoprotein. \*P≤ 0.05 \*\*P≤0.01 \*\*\*P≤0.001.



**Figure 2:** Total antioxidant status (TAS) and Vitamin C level in different study groups. Data are presented as mean±SD (standard deviation). Student’s t-test was performed to analyse data. <sup>a</sup>Versus non-smoker control (group-I), <sup>c</sup>Versus non-smoker diabetic patients (group-II) \*P≤ 0.01, \*\*\*P≤0.001