Body fat percentage (BF%) including both the visceral and subcutaneous levels of an individual is positively associated with hypertension, dyslipidemia, diabetes and coronary heart disease (1,2). Analysis of BF% using Bio Impedance Analyzer (BIA) is the most convenient, relatively simple, quick and non-invasive method when population based studies are concerned.

**objectives**

Aim of this study was to determine whether the lipid profiles of female Type 2 Diabetes Mellitus (T2DM) patients and controls differ based on their risk and non risk BF% and visceral fat levels.

**Methods**

T2DM patients and non-diabetic (each n=24) females living in North Central province of Sri Lanka were selected using convenient sampling method. Ten and twelve hour fasting blood samples were collected for determination of fasting blood sugar (FBS) and lipid profile assays [total cholesterol (TC), serum triglyceride (TG), high density lipoprotein (HDL) cholesterol] using standard kits. Low density lipoprotein (LDL) cholesterol levels were determined using the freidwald equation.

BF% and visceral fat level were determined using BIA (OMRON HBF-362) analyzer. BF% ≥30 was considered as obese and visceral fat level ≥9 considered as the risk level (manufacturer’s cut off data).

**Introduction**

**Results**

FBS levels of T2DM group and control group were 129.9 mg/dl, 82.9 mg/dl respectively and were significantly different (p<0.05).

However, the lipid profile values were not significantly different between two groups except for TG level (p<0.05).

Among cases and controls hypercholesterolemia, hypertriglyceridemia, reduced HDL levels and increased LDL levels were presented in 33.3%, 33.5%, 45.8%, 29.2% of cases and 37.5%, 42.0%, 16.7%, 41.7% of controls whose BF% were ≥ 30% respectively.

However, none of the lipid parameters were significantly different among the two groups.

When visceral fat levels were concerned hypercholesterolemia, reduced HDL levels and increased LDL levels were presented in equal percentage of cases (8.3%) as well as controls (8.3%) for all these three parameters whose visceral fat level is ≥ 9.

None of the cases or controls with visceral fat levels ≥9 was having hypertriglyceridemia indicating that the risk cut off value suggested by the manufacturer for the visceral fat level may not be optimum to deduce the risk for the current population.

**Conclusions**

As the groups with BF% ≥30 or visceral fat levels ≥9 did not show any significant differences in lipid parameters compared with the non risk groups among these T2DM patients and controls, studies are currently being carried out with a larger sample size to understand whether the body fat levels associate with dyslipidemia regardless of having diabetes.