

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Diabetes Mellitus**

Excessive urine excretion is one of the major symptoms of diabetes. The most common form of diabetes is diabetes mellitus, a metabolic disorder in which there is an inability to oxidize carbohydrate due to disturbances in insulin function. Diabetes mellitus is characterized by elevated glucose in the plasma and episodic ketoacidosis. Additional symptoms of diabetes mellitus include polydipsia, glucosuria, polyuria, lipemia and hunger (King *et al.*, 1998; WCPD, 2012).

Diabetes mellitus is a heterogeneous clinical disorder with numerous causes. Two main classifications of diabetes mellitus exist, idiopathic and secondary. Idiopathic diabetes is divided into Type 1 diabetes (IDDM) and Type 2 diabetes (NIDDM) (WHO, 2003).

Type 2 diabetes is associated with a cluster of interrelated plasma lipid and lipoprotein abnormalities, including reduced HDL cholesterol, a predominance of small dense LDL particles, and elevated triglycerides. These abnormalities occur in many patients despite normal LDL cholesterol levels. These changes are also a feature of the insulin resistance syndrome (also known as the metabolic syndrome), which underlies many cases of type 2 diabetes. In fact, pre-diabetic individuals often exhibit an atherogenic pattern of risk factors that includes higher levels of total cholesterol, LDL cholesterol, and triglycerides and lower levels of HDL cholesterol than individuals who do not develop diabetes (Krauss, 2004).

## **EFFECT OF CAFFEINE ON BLOOD GLUCOSE AND LIPID PROFILE IN ALLOXAN-INDUCED DIABETIC WISTAR RATS**

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