

## **Na<sup>+</sup>/K<sup>+</sup>-ATPase ACTIVITIES IN NORMOTENSIVE HUMAN SUBJECTS WITH AND WITHOUT FAMILY HISTORY OF HYPERTENSION IN SOUTH-WEST NIGERIA**

**OYEKUNLE, OLUBUNMI SIMEON<sup>1</sup>, ALAMU, OLUFEMI AKINYINKA<sup>2</sup>  
& SOLADOYE, AYODELE OLUFEMI<sup>3</sup>**

<sup>1</sup>Department of Physiology, Ladoke Akintola, University of Technology, Ogbomoso, Nigeria

<sup>2</sup>Department of Anatomy, Ladoke Akintola, University of Technology, Ogbomoso, Nigeria

<sup>3</sup>Department of Physiology, University of Ilorin, Kwara, Nigeria

### **ABSTRACT**

It is well known that there is an important genetic contribution to the development of essential hypertension. This study aims at knowing the erythrocyte Na<sup>+</sup>/K<sup>+</sup>-ATPase activities in individuals with (+FH) and without family history of hypertension (-FH) and to investigate the possible action of erythrocyte sodium pump in the pathophysiology of hypertension. Erythrocyte Na<sup>+</sup>/K<sup>+</sup>-ATPase activities were studied among 99 normotensive students of college of Health Sciences, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, aged between 16 and 30 years. Sixty four were -FH while 35 were +FH. Other parameters studied were body mass index (BMI), waist/hip ratio, systolic and diastolic blood pressure. Na<sup>+</sup>/K<sup>+</sup>-ATPase activities in subjects with family history of hypertension were significantly reduced compared with those without family history of hypertension (P<0.0001). No significant differences were found in BMI, waist/hip ratio, mean systolic and mean diastolic blood pressure, but subjects with family history of hypertension had higher systolic and diastolic blood pressure. Na<sup>+</sup>/K<sup>+</sup>-ATPase activities in +FH and -FH are familial and may underlie membrane cation transport in these subjects.

**KEYWORDS:** Blood Pressure, Erythrocyte Na<sup>+</sup>/K<sup>+</sup>-ATPase, Essential Hypertension