

NA⁺/K⁺-ATPASE ACTIVITIES IN NORMOTENSIVE HUMAN SUBJECTS WITH AND WITHOUT FAMILY HISTORY OF HYPERTENSION IN SOUTH-WEST NIGERIA

**OYEKUNLE, OLUBUNMI SIMEON¹, ALAMU, OLUFEMI AKINYINKA²
& SOLADOYE, AYODELE OLUFEMI³**

¹Department of Physiology, Ladoke Akintola, University of Technology, Ogbomoso, Nigeria

²Department of Anatomy, Ladoke Akintola, University of Technology, Ogbomoso, Nigeria

³Department 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⁺/K⁺-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⁺/K⁺-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⁺/K⁺-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⁺/K⁺-ATPase activities in +FH and -FH are familial and may underlie membrane cation transport in these subjects.

KEYWORDS: Blood Pressure, Erythrocyte Na⁺/K⁺-ATPase, Essential Hypertension