

# Neurological and Molecular Mechanism of Diabetic Neuropathy

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**ABSTRACT:** Neurological and Molecular Mechanism of Diabetic Neuropathy: It's a unique research study done to actually revealed and to demonstrate the pathogenesis of the deterioration in nerve's actions experience in some cases of diabetes melitus .

The method used in this research was basically critical thinking and review of certain literatures around the mechanism of nerves and actions and the existing research works on diabetic neuropathy and linking of the biochemical basis of nerve functions to the deterioration experience in diabetes melitus .

The result of which suggested another molecular mechanism which may be responsible for the neurological deficit such as neuronal death and demyelination experience in some patients diagnosed of diabetes melitus apart from the know polyol pathway producing sorbitol that can cause osmotic stress to the neurons of course this account for neuronal death but

does not totally account for the demyelination process but in this research a relative or absolute lack in reduced nicotinamide adenine dinucleotide phosphate (NADPH) which is required in the de novo synthesis of sphingomyelin a precursor of myelin sheath due to uncontrolled hyperglycemia acting as direct inhibitor of hexose monophosphate shunt one of the most important pathway in the production of NADPH in the body. The inhibition of pathway also alter the production of glutathione one of the useful antioxidants in the body thereby exposing the neurons to oxidative stress.

This study in a way fill the gap of some reported research on the insufficiency of the polyol pathway to totally account for the molecular mechanism of development of diabetic neuropathy as seen in diabetic animal models and also reports of unresponsiveness of diabetic neuropathy to pyridoxine administration and also suggested that NADPH substrate such as citrate of vitamin B2 should be use to replace pyridoxine in the management of diabetic neuropathy.

## Biography

Kehinde Alare, a medical student currently pursuing his MB;BS at the Ladoke Akintola University of Technology Ogbomosho , Medical School . Also, into web development and currently serving as head of programming department at ThisMaze.com Albuquerque, NM, USA., Alarol Ng , Elliox and others. He's published close to 10 researches in international journals.

Taiwo Alare, a graduate of mechanical and production engineer who badged his Bachelor of Engineering certificate from the Federal University of Technology Akure, School of Engineering and also a business analyst, who's currently head of marketing department ThisMaze.com , Albuquerque, NM,USA; Alarol Ng, Elliox and others. He's over 10 publications in international journals to his credit.

Tope Odunitan, a graduate of biochemistry who badged his Bachelor of Technology degree from the prestigious Ladoke Akintola University of

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Busayo Adetunji, a medical student currently pursuing his MB;BS degree at the Ladoke Akintola University of Technology Ogbomosho, Medical School. Also , into slot of medical volunteering for medical outreaches and health awareness campaign and served as a one time Public Relations Officer of the medical student's association of his medical school between the year 2019 - 2020.

Oladoja Owonikoko, a medical student currently pursuing his MB;BS degree at the Ladoke Akintola University of Technology Ogbomosho, Medical School. Also , into slot of medical volunteering for medical outreaches and health awareness campaign and currently serving as a senator representing his class in the medical student's association of his medical school between the year 2016 - present.



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