

## Answering Neurological Questions Psychologically: A Case for Neuropsychology in Africa

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The two unique fields of Neurology and Psychology share several things in common especially with respect to the final goal of improving human lives and modifying human behaviour. They may adopt various techniques to reach this goal, however, they both share similar concerns and are not mutually exclusive of the other. The relationship between the human brain and behaviour has been taught in both fields, establishing the shared relationship. The goal of this letter is to re-echo this fact and possibly forge more collaborations on how Neurological questions can be answered Psychologically and vice versa especially in Africa.

Neurology as a division of medicine, is focused on studying and treating disorders of the Nervous System (NS) which consist of the Central Nervous System (CNS) and the Peripheral Nervous System (PNS). Neurological Disorders (ND) that often affect the NS are numerous. Some common ones include: Amnesia, Aphasia, Brain tumor, Cerebral palsy, Dementia, Dyslexia, Enuresis, Epilepsy, Migraine, Narcolepsy, Neuropathy, polio, stroke, syncope, tremor, Alzheimer disease, Multiple sclerosis etc. NDs affect both children and adults due to several risk and predisposing factors such as malnutrition, bacterial and viral infections such as HIV, fungal and parasitic infections that may affect the brain such as malaria.

Psychology on the other hand is a unique discipline that is concerned with the description, explanation, prediction and modification of human and animal behaviours using the scientific approach. This implies that both covert and overt behaviours are sought to be explained by Psychologists using various existing theories and propounding new ones. All sub-divisions in the field of psychology share a common outcome; to

understand and modify human behaviours. Like Neurology, human behaviour can also be diseased, or better put; abnormal behaviours are common like neurological disorders.

Several Neuro-epidemiological studies in Nigeria have identified cases of different types of NDs among children and adults. For instance, Komolafe *et al.* (2018) [1] conducted a study to understand the distribution and pattern of neurological diseases in a neurology clinic in South-West Nigeria. They reported that 1,226 patients (who were majorly adults) were diagnosed with different neurological disorders within the space of 6 years. Of all the different types of neurological disorder presented, Epilepsy (32.92%) and stroke (11.8%) were the commonest. Another study specifically among children was conducted in Ibadan, South-west Nigeria by Lagunju *et al.* (2009) [2]. They reported that of the 644 cases of NDs recorded within 20 months, the most frequent pediatrics neurological disorders were epilepsy (45.3%), cerebral palsy (36.0%), neuro-muscular disorder (4.5%) and mental retardation (4.5%). This statistic reveals a very high prevalence of neurological disorders among pediatrics and adults in Nigeria.

Most of these neurological disorders affect the behaviour of persons living with them. These are generally referred to as psychosocial consequences; the personal and social implications of neurological disorders. A single instance of a particular neurological disorder and its psychosocial implication would be x-rayed in the next paragraph.

## **Epilepsy and Its Psychosocial Implications**

Epilepsy is one of the commonest neurological disorders among adults and children in Nigeria as already established. It is characterized by the loss of control and seizures which may occur at any time with or without warning [3]. The thoughts of the loss of control that is frequently associated with epilepsy alongside beliefs about how unpredictable it is, are enough to render persons living with it as susceptible to certain psychopathologies. There are literature evidence to suggest that persons living with epilepsy are more likely to experience low self-esteem, depression and anxiety [4,5]. People with epilepsy may be under-employed or unemployed due to stigmatization against them, they may experience very low social acceptance and increased isolation which may make it difficult for them to get married latter on in life [6]. Generally, psychosocial variables such as the degree of adjustment to the diagnosis, fear of seizures, perceived stigma, discrimination and level of social support are of concerned to persons living with this condition as adults, and to their caregivers (especially for the children living with it). Medications or pharmacotherapy may successfully address the biological symptoms of epilepsy and indeed other neurological disorders, however, they may not sufficiently address the psychosocial concerns associated with them. This is where the Neuropsychologist becomes relevant.

Neuropsychology as a unique branch of the discipline of psychology that is concerned with how the brain and the rest of the nervous system influence a person's cognition and behaviors. It is both an experimental, clinical and social fields of psychology focused on the diagnosis and treatment of behavioural and cognitive effects of neurological disorders using standardized neuropsychological tests, brain scans such as functional Magnetic Resonance Imaging (fMRI), Positron Emission Tomography (PET) and Computed Axial Tomography (CAT) to demonstrated and illustrate the structure of the brain. Neuropsychology is that connecting link between Neurology and Psychology. It offers evidence-based explanations as a significant

part of the clinical team handling various neurological disorders. In other parts of the world, Neuropsychology is well developed and accepted, however, in developing countries like Nigeria, the sub-discipline is not too appreciated neither are its capabilities understood towards helping with the numerous neurological disorders that plague the sub-region [7].

## Conclusion

The full potential of Neuropsychology may be realized if relevant questions are asked in the course of diagnosis and treatment of cases of neurological disorders. This is again bringing to the fore, the importance of the biopsychosocial model of Engel (1977) [8] which faulted the traditional biomedical model of understanding and treating medical conditions. There is therefore the need for Neuropsychological researches to be conducted with the aim of understanding the personal and social attributes that may explain the etiology and onset of the condition.

## Bibliography

1. Komolafe, M. A., Owagbemi, O. F. & Alimi, T. I. (2018). The distribution and pattern of neurological disease in a neurology clinic in Ile-Ife, Nigeria. *Nigeria Journal of Clinical Practice*, 21(11), 1520-1524.
2. Lagunju, I. & Okafor, O. (2009). An Analysis of Disorders seen at the Paediatric Neurology Clinic, University College Hospital, Ibadan, Nigeria. *West African Journal of Medicine*, 28(1).
3. Baker, G. A. (2002). The Psychosocial Burden of Epilepsy. *Epilepsia*, 43(Suppl 6), 26-30.
4. Caplan, R. (2019). Epilepsy, language, and social skills. *Brain Language*, 193, 18-30.
5. Collings, J. (1990). Psychosocial well-being and epilepsy: an empirical study. *Epilepsia*, 31(4), 418-426.
6. Jacoby, A., Baker, G. A. & Steen, N. (1996). The clinical course of epilepsy and its psychological correlates: findings from a UK community study. *Epilepsia*, 37, 148-161.
7. Peterson, C. L., Walker, C., Coleman, H. & Shears, G. (2019). Reported service needs at diagnosis of epilepsy and implications for quality of life. *Epilepsy & Behaviour*, 100(A).
8. Engel, G. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, 196, 129-136.