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## Overlapping Structural and Functional Abnormalities in Early- and Adult-Onset Schizophrenia patients

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**Statement of the Problem:** Age of onset has a significant influence on the course and overall outcome in schizophrenia. However, the similarities and differences in the pathophysiology of early-onset (EOS) and adult-onset schizophrenia (AOS) remain elusive. The purpose of this study was to characterize the convergent neurobiological abnormalities in EOS and AOS as compared to their respective healthy controls by using a multimodal MRI approach; combined VBM, DTI and fMRI techniques.

**Methodology & Theoretical Orientation:** Using Magnetic Resonance Imaging, we investigated the gray matter morphometry, white matter integrity and functional connectivity in 73 participants; 17 patients with EOS and 20 with AOS were compared with age-, sex-, and educational status - matched healthy controls (HC) (n=16 and 20, respectively).

**Findings:** The superior temporal gyrus (STG) showed convergent structural and functional impairment in both EOS and AOS as compared to their respective HC. In a direct comparison between EOS and AOS, we found the EOS group to exhibit wider and increased FC of the STG, especially with the sensorimotor areas, default mode, visual recognition, subcortical and the auditory networks. The functional connections that exhibited hypo-connectivity in the EOS group were found to be correlated with clinical symptoms.

**Conclusion & Significance:** The variations in the structural and functional connectivity of this region in EOS and AOS subjects may explain the differences in psychopathology and treatment outcomes between these patients groups.

### Biography

Dr. Mwansisya has a PhD from Central South University, People's Republic of China- Majoring in Clinical Psychiatry and Mental Health that made him to obtain a Doctorate of Medicine. He also has a Masters of Science in Mental Health from Muhimbili University of Health and Allied Sciences (MUHAS) and a Bachelor of Science in Nursing from University of Dar es Salaam, Tanzania. Prior to joining Aga Khan University where he is working currently, he worked as the head of department of clinical nursing and community health at the University of Dodoma for 7 years and mental health specialist at Mirembe Psychiatric Hospital for 2 years. Dr. Mwansisya has extensive experience in clinical Psychiatry and mental health. To date, he published 38 peer reviewed articles in International SCI Journals in the area of neuroimaging and community services. He is a professional registered mental nurse in Tanzania with an excellent academic and community services.

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