

## Research

### (a) Completed Research

- Spectrophotometric analysis of Lumefantrine-Chloranilic acid charge-transfer complex. **(See Publication 2)**
- Determination of physicochemical properties of Lumefantrine. **(See Publication 7)**
- Simultaneous spectrophotometric analysis of trimethoprim and sulphamethoxazole via charge-transfer complexation reaction with chloranilic acid. **(See Publication 10)**
- Epidemiological survey on hypersensitivity to sulphonamides in over a thousand (>1,000) respondents. **(See Publication 11)**
- Genotyping of the N-acetyltransferase enzyme 2 (NAT2) in over five hundred (>500) Nigerians including one hundred (100) HIV-positive patients.
- Phenotype analysis of NAT2 in over three hundred (>300) Nigerian volunteers using two probe drugs: dapson and caffeine
- Pharmacokinetics of dapson, a NAT2 substrate drug in Nigerians.

My research work on N-acetyltransferase enzyme 2 (NAT2) phenotype analysis is sequel to the completion of NAT2 genotyping in Nigerians. The aim of the study is to investigate the degree of correlation between NAT2 genotype and phenotype. Drug-induced adverse reactions to substrates of NAT2 metabolism have been documented to be majorly influenced by individuals' genetic dispositions to it with the culprit gene being NAT2. Those who are slow/poor acetylators are prime victims of this clinical condition. Currently, data on NAT2 genotype-phenotype association for African populations, especially Nigeria, is scarce.

For this study, laboratory analysis involves use of chromatographic techniques and data analysis will involve use of pharmacokinetics computational software, NONMEM. It is expected that outcomes of this research will translate into real-time genetic data of NAT2 gene in Nigerians; better treatment outcomes and review of the national policy relating to use of substrate drugs of NAT2 such as sulphonamides, dapson, hydralazine, isoniazid and procainamide.

### (b) Work in progress

- Combinatorial genotyping of notable drug metabolising enzymes/drug transporters in Nigerians