**Presentation title: Levonorgestrel-Induced Hepatotoxicity and Nephrotoxicity in Female Wistar Rats**

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**Abstract:**

The recent increase in the intake of contraceptives in a bid to prevent unwanted pregnancy as a result of increased sexual activities among young adults is a cause for concern. This study was designed to evaluate the impact of indiscriminate use of a commercially available LNG on liver and kidney function using Wistar rats as an experimental model. Sixty (60) rats weighing 110 – 120 g were purchased and randomly placed in three groups; n= 20: Group A was treated with a human dose equivalent of 1.83 mg/kg/BW once weekly, Group B was given the same dose twice weekly while Group C served as control administered equal vehicle volume of 0.2 ml on treatment days. The drug was procured from a government-approved pharmacy in Ibadan, Nigeria. At the end of each month of treatment, 5 rats from each group were sacrificed, liver and kidney were collected, weighed, and processed for histological and biochemical analyses. The weights of rats were measured before treatment started and before each batch of sacrifice. The relative organ weights and histopathological assessments of the liver and kidney were determined. Hepatotoxicity was determined by measuring aspartate aminotransaminase (AST), alanine aminotransaminase (ALT), AST:ALT ratio, alkaline phosphatase (ALP), Total protein and gamma-glutamyl transferase (GGT) using standard spectrophotometric methods. Similarly, nephrotoxicity was determined via cystatin C, urea, creatinine, BUN, and the BUN-creatinine ratio levels. Administration of LNG to rats especially twice weekly caused a significant reduction in the relative weight of the liver, and total protein while concentrations of AST, ALT, ALP, GGT, Cystatin C, creatinine, and urea were significantly elevated in the serum with a concomitant decrease in the tissues. The histopathological examination showed hyperplastic degeneration, disseminated congestion, and extensive tubular necrosis in the liver and kidney of the treated groups. The data obtained from this study showed a dose- and time-dependent effect on the organs, especially the liver and this compromise was more pronounced in the rats treated twice weekly. It therefore suggests that excessive intake of LNG may result in some degree of liver function impairments.

Keywords: **Levonorgestrel, Hepatotoxicity, Nephrotoxicity, Contraceptives**

**Biography:**

Catherine B. Adeniji had just concluded her PhD in Lead City University, Ibadan, Nigeria where her research work focused on the toxicological assessments of contraceptive intake on reproductive and vital organs in the body using experimental animal models. She is interested in women's reproductive health and has continued to work with other scientists to ensure improved health and well-being for women. She is currently looking for post-doc opportunity to advance her career in women's reproductive health and fertility