



## Chronic Exposure Duration and Frequency Variation on Selected Fertility Indices of Male Wistar Rats Exposed to Mobile Phone Electromagnetic Radiation

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### Abstract:

The chronic effects of exposure duration and different frequencies of electromagnetic radiations from mobile phones on selected fertility indices of male wistar rats were studied. Sixty (60) rats used for the study were randomly divided into two major groups (A and B) of thirty (30) rats each, and subdivided into I-VI of five rats each according to their weights. Groups A and B were exposed for 90 and 180 days respectively. Rats in sub-groups I, II, III and VI were exposed to 900MHz for 5, 10, 15 and 0 Hrs/day respectively, while the rats in subgroup IV were exposed to 2.4GHz for 24hrs/day, and sub-group V served as the normal control. At the end of 90 and 180 days, the rats were anaesthetized; the testes, sperm and blood samples were collected. The values:  $13.34 \pm 1.56$  and  $47.88 \pm 2.56$  of Total Abnormal Sperm cells (TAS) from group IVA and IVB, showed significant ( $p < 0.05$ ) increase when compared to the controls:  $5.70 \pm 0.21$  and  $6.73 \pm 0.52$ , and other subgroups. SOD, CAT and MDA from group IVB were positively correlated ( $p < 0.05$ ,  $r = 0.890$ ,  $r = 0.866$ ,  $r = 0.953$ ) to TAS respectively. Sperm count, sperm motility and total sperm morphology indices from group IVA and IVB, showed significant ( $p < 0.05$ ) reductions when compared to the control, and other subgroups. From our findings, it can be concluded that electromagnetic radiation from mobile phone negatively affected fertility indices, and the effects of which were proportional to exposure durations and frequencies.

### Biography:

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