

ABSTRACT

THE EFFECT OF MOBILE PHONE ELECTROMAGNETIC WAVES EXPOSURE ON SPERM COUNT AND MOTILITY OF ALBINO MALE RATS (*Rattus Norvegicus*) SPRAGUE DAWLEY STRAIN

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The radiation of mobile phone electromagnetic waves potentially causes disorders at various organs in our body. One of them is the reproductive system, especially for the mobile phone users who often put their mobile phone in their trousers' pocket. The purpose of this study was to determine the effect of mobile phone electromagnetic waves exposure on the sperm count and motility of albino male rats (*Rattus norvegicus*) *Sprague Dawley* strain. This study used 18 male rats *Sprague Dawley* strain aged 4-6-month-old which were divided into 3 groups: control group (C), 1 hour exposure group (P1), and 3 hours exposure group (P2) for 21 days. Then the rats were terminated and the secretion from the cauda epididymis was taken. The results for the sperm count (million/ml) average obtained at K: 3.57; P1: 2.75; and P2: 1.95. The results for the sperm motility (%) average obtained at K: 32.67; P1: 24.33; and P2: 16.83. The data which were processed by One Way Anova method showed no significant results with $p = 0.158$ ($p > 0.05$) for the sperm count and showed significant results with $p = 0.001$ ($p < 0.005$) for the sperm motility. The conclusion of this study are mobile phone electromagnetic waves doesn't decrease the sperm count average of albino male rats *Sprague Dawley* strain and decreases the sperm motility average of albino male rats *Sprague Dawley* strain.

Keywords: electromagnetic waves, mobile phone, sperm count, sperm motility