

Riau Rachmad Sukoco. 2007. **Pengaruh Radiasi Ponsel Terhadap Parameter Gangguan Sel Darah Mencit (*Mus Musculus*)**. Skripsi ini dibawah bimbingan Ir. Puspa Erawati dan Prof. Win Darmanto, Ph.D., Jurusan Fisika Fakultas Matematika Dan Ilmu Pengetahuan Alam, Universitas Airlangga, Surabaya

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh dari radiasi ponsel terhadap parameter sel darah, yaitu : kadar hemoglobin, jumlah eritrosit, dan nilai PCV.

Penelitian menggunakan 25 ekor mencit (*Mus musculus*) yang berumur 6-8 minggu dengan berat 20-30 g. Mencit dikelompokkan menjadi 5 kelompok perlakuan. Kelompok A sebagai kontrol, kelompok B mendapat paparan ponsel selama 3 jam, kelompok C mendapat paparan ponsel selama 6 jam, kelompok D mendapat paparan ponsel selama 9 jam, kelompok E mendapat paparan selama 12 jam. Sampel darah diambil lewat vena pada bola mata setelah paparan. Perhitungan kadar hemoglobin menggunakan metode *Cyanmethemoglobin*, pada jumlah eritrosit menggunakan hemositometer, dan nilai PCV darah menggunakan metode Mikrohematokrit. Analisa data dilakukan dengan anova ($\alpha = 0,05$). Jika terdapat perbedaan yang bermakna diantara kelompok perlakuan dilanjutkan dengan uji BNT.

Hasil penelitian radiasi ponsel menunjukkan penurunan yang signifikan terhadap kadar hemoglobin pada paparan selama 9 jam; jumlah eritrosit pada lama paparan 6 jam, 9 jam, dan 12 jam; nilai PCV pada paparan selama 6 jam dan 9 jam. Walaupun secara umum, hasil penelitian menunjukkan pada beberapa kelompok perlakuan mengalami penurunan yang signifikan terhadap parameter darah mencit namun tidak tampak adanya hubungan besar dosis dengan kondisi sel darah. Sehingga efek radiasi ponsel masih perlu dibuktikan dengan jumlah sampel yang lebih besar.

Riau Rachmad Sukoco. 2007. The Radiation Effect of Handphone To The Number of Parameter Disturbed Red Blood Cell in Rats (*Mus Musculus*). This Thesis is Guided by Ir. Puspa Erawati and Prof. Win Darmanto, Ph.D., Department of Physics. Mathematics and Natural Sciences Faculty, Airlangga University, Surabaya.

ABSTRACT

This research have purpose to know the influence of radiation by phone at mice (*Mus musculus*) to the number of parameter red blood cell, i.e: hemoglobin, the number of erythrocyte, and the value of PCV.

The research used 25 mice (*Mus musculus*) aged 6-8 weeks and weighed 20-30 g. Method of these research were used complete random design. Mice were grouped into 5 groups. Group A was control, group B were exposed by 3 hours, group C were exposed by 6 hours, group D were exposed by 9 hours, group E were exposed by 12 hours. Blood sample were taken from their vena ball eyes after exposed. Measuring hemoglobin used *Cyanmethemoglobin* methods. The number of erythrocyte counts were taken by hemocytometer *Improved Neubauer*. PCV value measured by microhematocrit methods. Data were analyzed by Anova ($\alpha = 0,05$). If the results is significant, analysis continued by BNT test.

The result from these research shown that exposure of handphone decreased of hemoglobin significantly during at 9 hours exposed; decreased to the number of erythrocyte during at 6 hours, 9 hours, and 12 hours exposed; decreased of the value of PCV during at 6 hours, and 9 hours exposed. However there are no specific pattern of doses responses relationship, so it could be suggested that we need more number of sample to observed more accurate.