ABSTRACT

VINCENTIA MARIA. Exposure of cell phone electromagnetic wave on pregnant mice and its effect on implantation and birth rate. Under supervision of ARIEF BOEDIONO and KUSDIANTORO MOHAMAD.

The increasing of cell phone usage is accompanied by increasing public awareness of occupational health and safety towards emission of electromagnetic wave from appliance. The purpose of this research was to determine the level of exposure safety through the observation of implantation and birth rates using mice as an animal model. Twenty four female mice were synchronized by the Whitten Effect and then each female were mated with a stud male mice (single mating, ratio 1:1). The exposure was given at 900 MHz during seven days after mating. Female mice were divided into four groups according to the type of cell phone exposure. The time of exposure was one, two, and four times a day, 15 min each for the first, the second, and the third group, respectively; and no exposure for the fourth group as a control. The result showed that the exposure time has no significant influence on implantation and birth rates. For all groups, the range value was from 8.66 to 10.00 for the implantation rate and from 10.00 to 12.33 for the birth rate. Those values were not significantly different with the values in the control group. It can be concluded that the exposure time of electromagnetic wave from the cell phone were still within safe level for the body.

Keywords: electromagnetic wave, implantation rate, mice, cell phone