

Effect of rhythmic Buddhist chanting (*Pirith*) and western pop music on rats' behavioral and hematological responses

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The effect of music on emotional, mental and behavioral changes in humans is well known however little is known about the effects of music on behavior and hematological indices in other animals. The aim of the present study was to investigate the effect of music on rat's behavioral and hematological responses. Two groups of male Wistar albino rats (N = 6/group) were exposed to music; one group to a set of Western pop songs and the other group to *Pirith (Thun Sutra)* one hour daily for nine weeks. Another group was kept as the control. Six behavioral patterns (sleeping, grooming, biting paw, scratching, relaxing and balancing) and three hematological parameters (serum total cholesterol, serum glucose and red blood cells count) and pulse rate were observed/measured. The data were analyzed using ANOVA. Mean percentage durations of sleeping and relaxing behavior except grooming behavior were higher in *Pirith* group and were statistically significant ($p \leq 0.05$) between the treatment groups and the control group. Sleeping (57.66 ± 5.63) and relaxing (29.44 ± 4.63) behavior were prominent in the rats exposed to *Pirith* while active behaviors; playing, grooming etc., were observed in the rats exposed to Western pop music. Mean pulse rate between treatment groups (*Pirith* - 340 ± 2.98 ; Western pop music - 410 ± 3.75) and control group (376 ± 3.18) of the experiment was significant ($p \leq 0.05$). According to the results it is possible to conclude that conditioning of rats' sleeping, relaxing and grooming behaviors depend on each sound source. Stressful behaviors were not observed in rats throughout the experiment revealing that *Pirith* and pop music are within the tolerable audible sound range of rats. No significant effects were found on hematological parameters due to music, but further studies on hematological analysis are required to confirm this finding.

Keywords: Audible sound range, *Pirith* chanting, rat behaviour

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