

Impact of Some Experimental Procedures on Behavioral Patterns and Physiological Traits of Rats

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Abstract : Welfare may be considered to be a subjective experience; it has a biological function that is related to the fitness and survival of the animal accordingly, researches have suggested that welfare is compromised when the animal's evolutionary fitness is reduced. This study was carried out to explain the effect of some managerial stressors as handling and restraint on behavioral patterns and biochemical parameters of rats. A total of 24 (12 males and 12 females) Sprague-Dawley rats (12 months and 150-180g) were allotted into 3 groups, handled group (4 male and 4 female), restrained group (4 male and 4 female) and control group (4 males and 4 females). The obtained results revealed that time spent feeding, drinking frequency, movement and cage exploration increased significantly in handled rats than other groups, while lying time and licking increased significantly in restrained rats than handled and controls. Moreover, social behavior decreased in both stressed groups than control. Triglycerides were significantly increased in handled rats than other groups, while total lipid, total protein and globulin significantly increased in both treated groups than control. Corticosterone increased in restrained and handled rats than control ones. Moreover, there was an increment in packed cell volume significantly in restrained rats than others. These deduced that if we want to study the effect of stress on animal welfare it is necessary to study the effect of such stressors on animal's behavior and physiological responses.

Keywords : handling, restraint, welfare, rat, behavior, physiology

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