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Opinion

Improvement of Animal Husbandry

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One of the fundamentals for the accountable use of animals in biomedical research is an exhaustive knowledge of the biological features and husbandry requirements. The choice of animal species, sex, age, and the actual strain are principally depending on whether their anatomical, physiological and behavioural physiognomies matched to the research demands. The housing structure of animals is designed based on economic and ergonomic considerations, such as apparatus, budgets, space, workload, facility to witness the animals and to preserve a certain degree of hygiene, with slight or no consideration for animal welfare.

Housing, feeding, care, and transport must be appropriate to the requirements of the animal species that have been selected. There is an accumulative consciousness of the importance of optimal housing conditions, including enrichment of the environment, for all animal species. This benefits is the well-being of animals and has a positive effect on the ability to adapt to unfamiliar conditions.

Environmental conditions such as housing and husbandry have a main influence on the laboratory animal during its life, not only through the research but also before and after the study period. The traditional care and maintenance of laboratory animals do not frequently contemplate the species-specific needs in relative to housing and feeding regimens.

Standardisation of the animal cage was considered important to decrease difference, resulting in a shoebox-shaped cage and typical bedding material for rodents. However, over the last decade, there has been an appreciation of the significance of providing an environment which meets species-specific needs, including environmental complexity and social housing, to progress their happiness.

One of the possibilities for refining living conditions of laboratory animals is to deliver chances for the animals to perform a more species-specific behavioural repertoire by providing environmental enrichment. Environmental enrichment defines as any adjustment in the setting of animals that seeks to enhance its physical and psychological well-being by providing stimuli which meet the animals' species-specific requirements. This has been presented increasingly into laboratory animal research facilities. Refinement of the animal's environment can be focused on both the social environment, and the physical environment, and nutritional features. Moreover, psychological appraisal of the environment includes concepts such as controllability and predictability and cognitive performance, which improved by structuring the cage with nest boxes, tubes partitions and nesting material as the lack of nesting material produced a substantial increase in anxious behaviour.

In conclusion, it is critical to know the power of environmental refinement on animal husbandry and scientific outcome, which can be achieved via heightening the equilibrium between scientific rationality, animal welfare and animal care workforce.

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