

## **RELEVANCE OF ANIMAL DISSECTION IN EXPERIMENTAL LEARNING (WITH SPECIAL REFERENCE TO NATIONWIDE CONTROVERSY ON USE OF ANIMALS)**

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### **ABSTRACT**

The controversy on use of animals for experimentation is also age old. These days the question which is significant for all zoology people is whether animal dissections should continue in practical exercise or it should be banned and instead use alternatives like computer simulation. Animal activists like PETA (People for the Ethical Treatment of Animals, India) and others represented to Ministry of Environment and Forest, Govt. of India and UGC (University Grants Commission, New Delhi) to stop the use of all animal types in study and research and alternative methodologies may be adopted for study purposes. University Grants Commission (UGC) – the apex regulatory body for higher education in India – has published official recommendations calling for an end to animal dissection and animal experimentation for university and college zoology and life sciences courses in a phased manner. Another argument is that the subjects like Anatomy cannot be taught merely by doing simulations on computers. Both the arguments are substantial and therefore a balanced approach should be adopted.

**Keywords:** *Animal Dissection, UGC Guidelines, Computer Simulations, Animal Experimentation*

### **INTRODUCTION**

Animals and their products are integral part of human life. Since beginning, Men is keen to know more and more about the functioning of its body and this urged humans to observe, understand animal behavior & working, which in turn, motivated for an experimental attitude. In ancient civilizations also the broad understanding about the basic functioning of animal systems was present. The history of biology reveals that as early as, 470 BC, *Democritus* of Abdera (Greek, 470–370 BC) made dissections of many animals and humans. He was the first Greek philosopher-scientist to propose a classification of animals, dividing them into blooded animals (Vertebrata) and bloodless animals (Evertebrata). He also held that lower animals had perfected organs and that the brain was the seat of thought. In 460 BC, *Hippocrates* (Greek, 460?–377? BC), the "Father of Medicine", used animal dissections to advance human anatomy. The technological advancements played a crucial role in development of life sciences, these promoted the research and learning in biological sciences catalytically. In 16<sup>th</sup> -19<sup>th</sup> century the animal studies & experimentation lead to an era of bio-renascence. The controversy on use of animals for experimentation is also age old. The animal activists are protesting/ protested against the animal experimentation worldwide.

#### ***What is an Animal Dissection and why it is Performed?***

The answer will certainly be as a process by which any animal (preferably dead) is dissected (disassembled) and its internal structures are studied. This gives hands on experience, develops skills and it is learning by doing. The process of dissecting out of the internal organs and understanding their structure and inter-relationships definitely gives an insight on biological process. World over, new drug research as well as tests meant for assuring the quality and efficacy of pharmaceutical products /vaccines/biological are based on experiments involving animals. Toxicological studies especially those performed in rodents and beagle dogs are the essential link between the pre clinical phase and clinical development of the drug molecule. No new drug can be introduced in clinical practice or even for the matters into clinical research unless it passes the battery of toxicity tests in animals. The biological information and knowledge gained from experimentation on animals has unlocked many secrets.

### **General Article**

There are seven major areas of medicine and biology where animals for experiments need to be used (Giridharan *et al.*, 2000).

1. Fundamental biological and medical research
2. Developing new treatments for diseases
3. Preparations of natural products used in medical research and treatment
4. Safety testing of chemicals and drugs
5. Study of genetic disorders
6. Development of new diagnostic tests for diseases
7. In biology and medical education

The animals are to be used in teaching biology in schools and colleges in understanding the basic anatomy and physiology of man and other animals. Therefore, we can say that the basis of life sciences lies in animal experimentation.

#### **What is the Controversy?**

Animal dissection is a part of practical exercise for undergraduate as well as postgraduate curriculum at universities in India. Several groups of people (WSPA: World society for Protection of Animals; PETA: People for the Ethical Treatment of Animals, India and others) represented to Ministry of Environment and Forest, Govt. of India and UGC (University Grants Commission, New Delhi) to stop the use of all animal types in study and research and alternative methodologies may be adopted for study purposes. Based on the Prevention of Cruelty to Animals Act (1960), the MoEF has issued guidelines to the University Grants Commission, ministry of health and family welfare, Pharmacy Council of India and the Medical Council of India to discontinue dissection and experiments with live animals in universities, colleges, research institutes, hospitals, laboratories and instead use alternatives like computer simulation. The guidelines were framed based on the duties of the Committee for the Purpose of Control and Supervision of Experiments and Animals (CPCSEA), which has been constituted under the provisions of Section 15 of the Prevention of Cruelty to Animals Act (1960). Thereafter, the University Grants Commission (UGC) – the apex regulatory body for higher education in India – has published official recommendations calling for an end to animal dissection and animal experimentation for university and college zoology and life sciences courses in a phased manner. However, on the other side the teaching and research community points out that there is a gulf between learning the theoretical and practical aspects of anatomy. The hands-on, practical experience “gives you a completely different perspective for the spatial relationship between different organs”. The integral role of animals in biomedicine, there seems a *prima facie* justification for the scientific use of animals both for the practical benefits to human and animal life. Another fundamental principle in nature is that all forms of animals including human life must by nature use other instances of organic life in order to be alive and flourish. Another argument by a senior professor at Delhi University is that the subjects like Anatomy cannot be taught merely by doing simulations on computers. Without practical training if they perform some surgery, they might be shaky. Technology cannot be a substitute for cutting through tissues to feel the texture of the viscera.

### **CONCLUSION**

In order to settle down the controversy and reach to a consensus following suggestions may be incorporated: -

- To make revision of existing zoology syllabi at higher education, considering the facts of ecological threats.
- Formulate rules and guide lines in such a manner that they take care of welfare and well being of laboratory animals on one hand which would not impede research at the other hand
- To promote sophisticated methods to alleviate pain during experiments and whenever possible advocate alternative methods to achieve the same goal.
- To ensure the reduction the number of experimental animals and simultaneously ensure maximum utility of an animal sacrifice.

### **General Article**

- To incorporate more of ICT based practical exercise at school level to ascertain a proper ICT foundation.

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