



ANIMAL RIGHTS AND EXPERIMENTATION: AN INDIAN OVERVIEW

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ABSTRACT

Millions of rabbits, rats, cats, monkeys and many other animals, every year, face internment and extreme torture, all over the world. Animal experimentation or animal testing is a procedure in which animal models are created to dummy run medicinal drugs, cosmetics or any other product expected to enter into the human market. India has taken some quite remarkable steps towards the abolishment of this practice and has managed to set an example for other countries across the globe. This article talks about various aspects of animal experimentation with respect to India be it the history, need, applications, regulations as well as the ethical side of the debate for the continuance of this activity.

INTRODUCTION

Around 115 million animals, approximately, are used in some or the other form of experimentation across the world. Animal experimentation is the utilization of living organisms excluding human beings, for research purposes in diagnostic laboratories as well as pharmaceutical and biotechnological private firms. It involves testing products like potential medicines, cosmetics, or any other scientific research and is a mere preliminary trial and error procedure for obtaining the successful result

on a human being. This technique is adopted, as the physiology of a human and an animal are quite alike and hence it aids the researchers to acquire information as to how the human body would react to the newly introduced substance. There is a debate going on since a long period of time which asks to choose between medical advancement or animal safety.

HISTORY

Firstly, around 2nd and 4th centuries, Greek physicians like Aristotle and Erasistratus were the first ones to perform experiments on animals. Historically, especially in India, the ancient texts have a high quantum of material indicating the sacrificing of animals like a goat, horse and a cow as opposed to the sacred and holy attributes attached to animals like cows, which are revered in present times. There are mentions of animal sacrifices like goats and oxen in Rigveda, white goats, calves, bulls, speckled and castrated oxen etc. in Yajur Veda as well as chickens used for meat in the Manusmriti.

NEED

Animal experimentation is considered to be an effective and accurate means of testing an upcoming breakthrough. It is believed that humans and animals share a considerably high quantum of diseases like cancer, flu, asthma, tuberculosis etc. Also, that they have similar cell processes and functioning like digestion, respiration as well as reproductive systems. A mouse has its 95% of genes exactly same as a human being. Therefore, positioning animals as models for analyzing the effectiveness i.e., both the beneficial as well as hazardous consequences of a drug to be introduced for human use, is a valid and



logical practice. Surprisingly, a staggering figure of 180 out of 216 Noble prize recipients in the field of medicine and physiology used animal experimentation mechanism during their research.¹ The California Biomedical Research Association asserts that approximately every medical breakthrough in the last 100 years has resulted directly from animal research and experimentation.² Hence, animal testing has paved the way for several inventions. Use of Herceptine, a humanized mouse protein has helped a lot to increase the survival rates in breast cancer. Type-I diabetic patients place their reliance on insulin, which was developed through experimentation on rats and rabbits. Be it production of asthma inhalers or eradication of small pox, animal experimentation has been the key to all such marvels of the history of medicine.

APPLICATIONS

1. DRUG TESTING

The 20th century witnessed the upsurge of drug testing using animals. Animals which are to be used in the drug experiments are initially bred in laboratories wherein they are forcefully confined within a cage in a sterile indoor environment. There has to be a complete and verified examination of drugs, for instance, processes like absorption, metabolism, distribution, excretion and their effect on other body systems. During the

testing, firstly, the animals are caged into some form of restraint. For any disease prevalent in human race, the researchers would induce similar aspects of the disease in animals with the purpose of creating an animal “model” of that disease. Areas of medicine which usually involve animal testing are neurology, digestive, infectious, genetics, connective tissue as well as chronic diseases. Following appeals from PETA India and Union Minister Maneka Gandhi, the Ministry of Health & Family Welfare has passed an amendment to Schedule Y of the Drugs and Cosmetics Rules, 1945, which spares animals testing for new drug registrations when complete data from earlier toxicity experiments already exist for drugs approved abroad.³

2. COSMETICS

The animals typically used for this kind of experimentation are rabbits, rats, guinea pigs and hamsters. The tests usually included in this kind are skin and eye irritation tests wherein chemicals are rubbed onto shaved skin or poured into the mouths of rabbits repeatedly for many weeks in order to observe signs for hazards. Also, no kind of pain relief is provided even at the conclusion of the experimentation. It is estimated that approximately 100,000- 200,000 animals die every year around the world due to cosmetic testing. Humane Society International has also started the #BeCrueltyFree campaign is

¹ Foundation for Biomedical Research, <https://fbresearch.org/medical-advances/nobel-prizes/> (last visited Jan. 19, 2020).

² California Biomedical Research Association, “CBRA Fact Sheet: Why Are Animals Necessary in Biomedical Research?,” ca-biomed.org (Oct. 15, 2013).

³ Mohammed Imran, Abul K. Najmi, Mohammad F. Rashid, Mushtaq A. Shah, Clinical research regulation in India-history, development, initiatives, challenges and controversies: Still long way to go, *Journal of Pharmacy and BioAllied Sciences* (Apr. 10, 2020, 3:50 PM), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3612334/>.



the most effective initiative in the world which aims at ending animal cruelty in cosmetics testing. It is presently attempting to change legislations, educate and aware customers and helping companies devise new alternatives to animal experimentation.⁴

3. EDUCATION

Around 6 million animals are dissected in research classrooms yearly.⁵ The animals mainly used for this purpose are frogs, perch, cats, earthworms, grasshoppers etc. Until a few years back, biology was characterized by the procedure of cutting of a live frog just for educational purposes. However, in 2011, the University Grants Commission, provided with guidelines to phase out animal experiments in life sciences which involved banning of animal dissection.⁶ Even in the United States of America, the “choice in dissections” laws had been passed which offered the students a choice between using animals or alternatives for performing experiments and conducting research. Whereas Romania is considered to be the country with the highest use of animals for classroom education purposes.

LEGISLATIONS AND REGULATIONS

In India, Prevention of Cruelty to Animals Act, 1960, under its Section 15(1) introduced and constituted CPCSEA, or The Committee for the Purpose of Supervision of Experiments on Animals

under the Ministry of Environment Forest & Climate Change. It is a statutory body which was established in 1964 and provides guidelines for animal experimentation in the country. Besides this the Indian National Science Academy (INSA) and Indian Council of Medical Research (ICMR) have also formulated certain guidelines for care and use of animals in scientific research as well as in medical colleges. Further, India set a remarkable example in 2014 by becoming the 1st South-Asian country to ban the manufacture of cosmetics produced by animal testing followed by it imposing a nationwide ban on import of such cosmetics. Further, it went on to ban the manufacture of household products like soaps and detergents whose production involved animal harm in the form of testing and experimentation. Further in April 2016, Union Minister Menaka Gandhi along with the Indian Ministry of Health and Family Welfare established the prohibition of animal testing for household products manufactured

DEBATE AND ETHICS

The debate with regards to Ethics in animal experimentation has been raging from the longest time i.e, 17th century. It is believed that animals have the same moral status as that of human beings and deserve equal and fair treatment. Many activists believe that this prejudice suffered by animals should be termed ‘speciesism’.⁸ Animal ethics are not

⁴ About Cosmetics Animal Testing, Humane Society International (Apr. 12, 2020). www.hsi.org.

⁵ The National Humane Education Society, <https://www.nhes.org/animals-in-research-and-education/> (last visited Oct. 30, 2018).

⁷ Leena Rajathy, Port Louis R and Leoney, Animal research: Ethics, regulations, and alternatives, 7, The Pharma Journal 194, 197-198 (2018), <http://www.thepharmajournal.com/archives/2018/vol7issue12/PartD/7-12-21-323.pdf>.



presented in the form of stringent regulations but an arena of suggestions and morally correct practices of animal protection. There are many institutions set up to oppose this practice based on ethical views, like PETA.

Presently, India is exploring a plethora of alternatives which could effectively replace animal experiments to produce drugs and cosmetics. One of them is In vitro testing which comprises of “organs-on-chips” technology devised by Wyss Institute of Harvard which involves human cells being grown in an advanced system which then act as dummy humans and can be tested with drugs or other products meant for future human use. In fact, according to Indian Council of Medical Research (ICMR), certain technologies like Organoids and Organs-on-a-chip, seem to not just substitute but outperform animal experimentation. Also in 2003, MCI’s Executive Committee concluded: “As an alternative to these tests involving animals, JIPMER, Pondicherry, has developed EX-PHARM Blank CD. This CD has been specially prepared as 100% replacement to animals used in undergraduate courses in Medicine, Pharmacology, and Veterinary Science”. There are certain firms like EpiSkin have created 3-dimensional eye model which can replace rabbits in experimentation and which is morphologically as well as functionally same as that of human beings. The Ministry of Health and Family Welfare amended the Drugs and Cosmetics Act in 2016, which replaced animal testing with in vitro processes. There are also human volunteers,

even though quite small in number, who contribute by undergoing ‘microdosing’ which is administering small amount of dose for testing models for drugs.

Further, Soumya Swaminathan, former director-general of the ICMR, headed a team which concluded that such technologies are more cost effective and humane when compared to animal testing.⁹ The paper also noted that after two decades of drug-discovery research using animals, India has not developed a single novel drug that has made it to market. The reason for this was deduced to be the fact that certain molecules which were found to be safe in animals proved to be detrimental in human bodies. The team also advised the Government of India to establish Centres of excellence as well as to increase funding and international collaborations for alternative technologies. Also, “The value of animal testing is strongly overestimated,” was asserted by Thomas Hartung, director of the Centre for Alternatives to Animal Testing at Johns Hopkins University in Baltimore, Maryland who conceived several reliable alternatives having great possibility of replacing animal testing. There is an organisation called The Society for Alternatives to Animal Experiments (SAAE) set up in India which aims at establishing a platform for scientists spread nationwide to discuss, research and devise new alternatives.¹⁰ It proposes to adopt the 3 Rs’ used internationally namely Reduction, Refinement and Replacement - of use of animals in education, research and testing in India.

⁹ Swaminathan, S. Kumar, V. & Kaul, R. *Indian J. Med. Res.* **149**, 584–592 (2019).

¹⁰ The Society for Alternatives to Animal Experiments, <http://www.saae-i.org> (last visited Dec. 12, 2019).



The US Food and Drug Administration (FDA) documented that 92 per cent of all drugs that are shown to be safe and effective in animal tests fail in human trials because they don't work or are dangerous.¹¹

CONCLUSION

Moreover, the use of animals for research and educational purposes, has always been quite a controversial subject. Certain scholars make use of cost-benefit analysis of animal experimentation often ignoring the fact that animals too are sentient beings like human beings. In my opinion, obtaining a middle ground in this discourse can prove to be quite tricky as there are no sure shot statistics and corruption involvement to get special licenses would provide no beneficial asset to the compromise. Hence it should be ensured that the budding and undiscovered alternatives are researched upon and implemented which could act as perfect substitutes for animal experimentation. Although, India is persistently studying and trying to develop different options, not even a single one of them have proved to be successful in whole. Despite the occurrence of some humungous accomplishments with the help of animal testing, the ethical perspective cannot be ignored. It can also put animals like rabbits, mice, frogs into risk of extinction and denigrate the food chain causing an imbalance of nature.

¹¹ Alternatives to Experimenting on Animals, PETA India (Apr. 6. 2020, 3:10 PM), <https://www.petaindia.com/issues/animals-experimentation/alternatives-to-experimenting-on-animals/>.