

Research animals for scientific purposes in Thailand: Ethics & policies

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Abstract

"The Ethical Principles for the Use of Animals for Scientific Purposes" has been issued by the National Research Council of Thailand (NRCT) since 1999. The ethics focus on the 3Rs – Replacement, Reduction and Refinement, including Responsibility of animal users. In addition, the ethics also recommend two levels of supervision, national and institutional level. Since then, the situation of the use of animals for scientific purposes has been gradually changed and several activities have been emerged according to the 3 Rs and the well-being of animals. Since the beginning of the year 2007 the "National Strategic Planning for Production, Care and Management of Animals for Scientific Purposes" has been approved by the government and also "the National Committee for Research Animal Development" has been set up. Since then the Office of the National Committee for Research Animal Development has been officially established at the NRCT in order to supervise and standardize the development of care and use of research animals in Thailand towards international standards. Moreover, the use and care of animals for scientific purposes act is expected to be promulgated soon. This act will be the first one in Thailand concerning animals for scientific purposes. The policy and regulation of research animals for scientific purposes in Thailand has been started, therefore international cooperation and recommendations are required.

Keywords: ethics, policy, ethical principles, 3Rs

I. Introduction

Since the establishment of the National Laboratory Animal Center in 1980 to produce quality animals at Mahidol University under WHO/UNDP consultant, Dr. Stian Erichsen, the then ICLA secretary general, the number of laboratory animal used in biomedical research, drug testing and vaccine production has steadily increased from just a few to approximately 1,000,000 per year. Unfortunately, the use of alternatives to replace animals is almost neglected.

In order to ensure reliable and acceptable results and to avoid public reaction, the National Research Council of Thailand (NRCT) in 1999 has issued the Ethical Principles and Guidelines for the Use of Animal for Scientific Purposes.

To enforce the Ethical Principles the 'Animal for Scientific Purposes Act' was drafted to oversight and promotes animal welfare in the care and use of animals and to avoid unnecessary stress pain and cruelty to animals.

The Government of Thailand has recently issued the strategic plan for development of laboratory animals in Thailand for the year 2007-2010. The

aim is to raise the standard of animal care and use to international level during this period.

II. The ethical principles and guidelines

The ethical principles for the use of animal for scientific purposes were initiated by Dr. Pradon Chatikavanij. In 1983, as the representative of Thailand, he attended the international meeting organized by the Council for International Medical Sciences (CIOMS) in Geneva, Switzerland. After his retirement, in 1999 he joined the National Research Council of Thailand (NRCT) as a Chairman of Working Committee on the Drafting of Ethical Principles and Guidelines for the Use of Animals by using the CIOMS International Guiding Principles for Biomedical Research Involving Animals' published in 1985 (CIOMS 1985) as a main reference. Within that year 'the Ethical Principle for the Use of Animal for Scientific Purposes' was announced.

Ethical concept

The concept of the Ethical Principles and Guidelines was based on the Thai cultural

background, religion and the following references.

- ❖ The CIOMS International Guiding Principles for Biomedical Research Involving Animals' (CIOMS 1985).
- ❖ The Principles of humane experimental techniques (Russell and Burch, 1959).
- ❖ ICLAS Recommendations for the specification of the animals, the husbandry and the techniques in animal experimentation (Spiegel et al. 1978).

The ethical principles for the use of animal for scientific purposes (NRCT 1999).

The Ethical Principles for the Use of Animal for Scientific Purposes comprise of 5 principles, namely;

1. Animal users are to be aware of the value of life of animals

Animals are to be used only for specific purposes, which have been carefully considered as beneficial and most necessary for the development of the quality of life of both humans and animals and/or the progress of science, which is well considered that there is no other available equivalent or option.

2. Animal users are to be aware of the accuracy of the research outcome using the minimal number of animals

Animal users are to be aware that the objective and goal of the project can be achieved accurately with the least number of animals depending on the genetics and health quality of the animals and the appropriate planning and techniques used in the experimental design.

3. The Use of wild animals must not violate laws or policies for wildlife conservation

The use of wildlife is to be restricted to scientific research that cannot be replaced by any other kind of animals, and it is to abide by the laws and policies for wildlife conservation.

4. Animal users need to be aware that animals are living beings just as humans are living beings

Animal users have to be aware that animals experience a sense of pain and respond to their surroundings in the same way that humans do. Animals are to be treated with caution to avoid stress, pain and suffering by providing optimum conditions for transportation, animal husbandry, environmental enrichment, prevention of diseases and appropriate experimental techniques.

5. Animal users must keep detailed data and records of animal experiments.

Animal users must strictly follow the protocol described in their proposal, and all the details of

the experiments are to be recorded in full and made available for public release or investigation at all times.

The guidelines

The Ethical Principles provide guidelines for scientists in facilitating better care and use for the welfare of animals, decreasing degree of animal suffering, reduction in number of animal used and refinement of techniques used in animal experimentation. The guidelines also required scientist to use alternatives to replace or to reduce the number of animals as much as possible. In addition to already well known 3Rs principles –Replacement, Reduction and Refinement, another 5 Rs – Reason, Responsibility, Reliability, Reproducibility and Record are added.

Compliance with the ethics

The Ethical Principles and Guidelines also states on monitoring the Ethical Principles and Guidelines. Two committees are required for monitoring, the institutional level and the national level.

❖ Institutional level

Each institute must appoint the Institutional Animal Care and Use Committee or Animal Ethic Committee (IACUC / AEC) as recommended in the Ethical Principles and Guidelines. The IACUC/AEC' duties are;

1. To set up standard operational procedures (SOPs) for animal care and management.
2. To review all projects involving the use of animals for scientific purposes at or outside the institution.
3. To monitor the use of animals so that any experiment must follow the ethical principles and guidelines and the approved proposed proposal.
4. To manage the institutional animal unit so that it complies with the ethical principles guideline.
5. To support and ensure that the institutional animal unit is sufficiently funded for facilitating the guidelines set up in the ethical principles.
6. To provide continuing education, training and conferences in laboratory animal science to persons involved, so that they are able to follow the ethical principles and guidelines.

❖ National level

The national level committee is appointed at the NRCT. The committee has authorities and responsibilities as followed,

1. To investigate the internal affairs of an institute subjected to public complaints or

- accusation.
2. To promote and reinforce animal users and governmental and private organizations using animals to strictly follow the ethical principles and guidelines.
 3. To support and supervise governmental and private organizations using animals to set up details of SOPs following the ethical principles and guidelines.
 4. To amend the ethical principles and guidelines so that it is always updated according to the progress of science and technology, the change of society and the culture of the nation.
 5. To facilitate organizations using animals to host conferences and training for animal care and management.
 6. To cultivate an awareness in the Budget Bureau and the institutions to allocate the budget for animal facility, and to endorse requests from institutions for sufficient funding.
 7. To co-ordinate with research funding organizations to render their support to the projects endorsed by the IACUC/AEC.

III. National strategic planning for laboratory animal development

At the beginning of the year 2007, the cabinet has approved the national strategic planning for laboratory animal development for the year 2007-2010 proposed by the NRCT. This plan is the first national strategic plan for laboratory animal development in Thailand.

In addition, the government has also authorized the National Committee for Research Animal Development (NCRAD) with the Secretariat Office to pursue of the plan.

The strategic plans are;

1. To improve animal facilities; animal breeding and production; animal transportation; use, care and management of animals to international level.
2. To standardize animal genetic and health quality assurance.
3. To reform laboratory animal science education and training at all levels to ensure sustainable supply of quality human resources.
4. To promote research and development in laboratory animal science and alternatives.
5. To encourage private sectors both foreign and local investors to produce and supply quality equipment and materials for animal care and use.
6. To oversight and supervise institutes and animal users to continuously follow the above strategy and the Ethical Principles and Guidelines.

IV. Law and legislation

The 'Animal for Scientific Purposes Act' has been drafted since 2005 by the NRCT to enforce the Ethical Principle and Guidelines and the national strategic plan. The drafted was presented to public hearings twice before it gets the approval from the cabinet to forward to the Office of the Council of State. At present the drafted act is under consideration at the Office of the Council of State. It is expected that the act will be promulgated soon.

V. Conclusion

To enable research institutes in Thailand to comply with the Ethical Principles and Guidelines, the strategic planning for laboratory animal development is to be cautiously implemented and supervised. In addition, the most critical for laboratory animal development and the use of alternatives to animals in Thailand is a lack of advance knowledge in these fields. Therefore, training courses with experts from all over the world are needed.

With increasing interest in drug and vaccine development in the country, alternatives to animals particularly in toxicity testing will be seriously considered. Thus, collaborations with other countries are expected.

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