

## Proposing a National Ethical Framework for Animal Research in Iran

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### Abstract

**Background:** One of the domains of scientific activities is working on animals. Performing experiments on animals is permissible only with the purpose of obtaining necessary information for saving and improving life of human beings or animals. Principally, all religions believe that human life is more valuable than animal life and humans have a God-given authority over animals, but they should not be cruel to animals and cause their pain or suffering. Based on Islamic view points, although Allah has put the Man as the lord of all creatures, he has not the right to use other creatures for any conditions and does not respect their real statues. Because of the widespread use of experimental animals in our country, special ethical codes should be redefined for living conditions of experimental animals based on the present regulations in Iran and also other countries. Therefore, all our researchers should have enough information about ethical codes of treating experimental animals as well as Islamic principles in this regard.

**Methods:** All Islamic and international sources related to treating animals and also valid international ethical guidelines were collected and classified in order to extract the aimed points. Then all extracted points were reviewed by experts familiar with Islamic and ethical rules of treating animals.

**Results:** Finally the strategies for appropriate and complete implementation of the national ethical guidelines of animal research in Iran were suggested.

**Conclusion:** It is obvious that the suggested principles are applicable only with appropriate planning of training courses based on the facilities and needs of our country.

**Keywords:** *Experimental animal, License, Animal ethics guideline*

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### Introduction

The use of experimental animals constitutes an essential part of biomedical research (1). The research on animals remained a necessary prologue in studying human subjects. During the past 20 yr, the number of animals used in research has been decreased 30-50% due to the costs they consume and the regulations and stress of animal welfare societies (2). Today, 75-100 million vertebrates are used in researches, test-

ing and teaching per year. They are used for a wide range of purposes, whereas about 30% of animals are used for fundamental researches, diagnostic procedures, etc (3).

Many articles have been demonstrated the use of laboratory animals in biomedical research during the last few decades (4). Since 1956 the International Council for Laboratory Animals Science (ICLAS) defined and distributed the international guideline principles for using animals

in biomedical research worldwide. Because of the important role of experimental animals in the improvement of biomedical sciences, the researchers compelled to design their research protocols with revising scientific and ethical respects. But ICLAS guidelines are not used as world wide standards, and each country has to design its own system for ethical appraisal of using laboratory animal rights according to culture, tradition, religion, laws and regulations (5). Therefore, many countries have been compiled detailed guidelines to the care and use of experimental animals (6-8). In Iran, many biological research and teaching works, advanced research programs of pharmacology, pharmacokinetics and physiology are performed using laboratory animals. Animal models are used in some high schools and universities (9). The number of research articles in a recent Physiology-Pharmacology Congresses in Iran shows that laboratory animals were used in over 55% of the reports (1). Since Islam is predominant culture (more than 95%) and religion in our country and according to Islamic rules, life is divine present to all creatures, then, nobody have authority to interfere animal's life without his permission. Animals are part of this truth of life, so we can use them only with respect for their dignity and status that have been created. Humans should only use animals in an ethical manner, because they are creatures which have pain and distress senses (10). According to the Islamic faith, humans should know their limitations and positions in nature, therefore we are not allowed to use animals in the way we desire (11,12). Our religious rules obligate us to avoid causing animal's distress or suffering, therefore, we try to protect animal wellbeing in research, teaching and testing.

The development of biomedical sciences further obligates researchers to respect principals of caring and using of animals because of increased use of animals. Ethical use of animals includes good scientific design of the research, good hygienic standards and not falsifying results of the research (13, 14). Furthermore, observing ani-

mal rights is becoming a worldwide issue and we should have policies that accord with the emergence of global concern.

Iranian ethical guidelines for the use of animals in research have been compiled recently (9). Available laws and regulations about the treatment of exotic animals and admission of new species to the country were provided by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (15). The quarantine and animal hygienic laws were provided from Veterinary Medicine Organization (16). Furthermore, ethic codes for research on animals have been compiled according to scientific research process and effective factors. These codes in Iran have been compiled in four parts: procuring of animals and transporting them, husbandry and the personnel and researcher's knowledge (9).

In this study, we reviewed Islamic view points and universal guidelines about animal use and according to the available animals' ethic codes in our country, strategies of implementation of this national ethical guideline and supervision of researchers were redefined.

#### ***Islamic viewpoints about animal use***

In the Holy Quran, God recommends all the people to think about animals and how they've been created:

Do they not look at the camels, how they created? (Al Ghaasyiyah 17)

Do they not look in the dominion of the heavens and the earth and all things that Allâh has created, (animals and plants) and that it may be the end of their lives is near. In what message after this will they then believe? (Al Araaf 185) Have they not looked at the heaven above them, How we have made it and adorned it, and there are no rifts in it? (Qaaf 6)

And in Your creation and what he scattered (through the earth) of moving (living) creatures are signs for people who have faith with certainty. (Al-Jāthiyah; 4)

38. and we created not the heavens and the earth, and all that is between them, for mere play,

39. We created them not except with truth (i.e. to examine and test those who are obedient and those who are disobedient and then reward the obedient ones and punish the disobedient ones), but most of them know nothing. (Al-Dukhan 38-39)

According to these verses, it is obvious that Islam has an exceptional point of view on all the aspects of creation and none of the creatures is futile (1). In Islamic teachings human beings are advised to treat animals compassionately and to act moderately toward them. As the prophet Mohammad said: "Only the compassionate will enter the heaven. Brothers, animals have tender senses so do not torture or over load them as they will suffer as the man do." (Alhor Alameli M. Vasaal Alshieh (In Arabic). *Tehran Maktab aleslamieh* 8:pp.351-353,397.).

It is morally ever so important to determine how far we are allowed to use animals especially in researches and if we can consider ourselves as their absolute owners and arbiters of their quality of life, based on the belief that the creation is not futile.

"Did you think that we had created you in play (without any purpose), and that you would not be brought back to us?" (Al Muminuun 115)

Verses of Quran and narration of the prophet Mohammad and the immaculate Imams seems that we are allowed to terminate animals' lives. For instance there is a narration from Mohammad that said: If any body kill a creature even a small bird without any reason, God will make interpellation (*Tarkol Atmaab* 290, *Nahjol Fasahe* 250) if necessary but we are not their absolute owners (1). We are not owners of animals or animals and other creatures are not as goods or properties. Actually God is all creatures' owner.

Prophet: "Do not stab animals in the face as they praise God." (Alhor Alameli M. Vasaal Alshieh (In Arabic). *Tehran Maktab aleslamieh* 8: pp.351-353,397.)

In conclusion based on Islamic teachings we understand that the main animal rights include provision their natural needs, such as water, food and a suitable place to live, their living and mental

condition, good health and avoidance of causing them pain, distress, or harm and unnecessary termination of their lives. These should be considered carefully by the people who work with them (1).

#### ***Implementation and adaptation of the ethical guidelines for animal research in developed countries***

In the 1950s, with the increased use of animals in biomedical research and the development of laboratory animal science, demand for good quality animal models increased. This science contributed to our knowledge of laboratory animal biology and their environmental requirements, prevention and treatment of diseases, development of laboratory procedures, alternatives to animal and ethics (3). Legal controls on the use of animals in experiments exist in many countries (17-19). The Medical Research Council (MRC) of UK, the Home Office of the United Kingdom and the National Health and Medical Research Council of Australia are three organizations which manage the regulations and receipt of licenses by researchers (20) and supervises all research activities which work with living animals in research institutes and universities in the respective countries. Research application forms are monitored by these organizations, therefore research methods are considered under a uniform framework in each country. The organizations design education and training programs in the care and use of laboratory animals and control the duration of researcher's licenses (21). Investigators and researchers are responsible for the welfare and wellbeing of animals they use, and scientific and ethical design for their proposals (19).

#### ***Implementation of the National Ethical Guidelines for Animal Research in Iran***

The Specific National Ethical Guidelines for Biomedical Research (2005) has been compiled as a serious effort and performed as a joint project by medical Ethics and Medical History Research Center (MEHRC) and the Endocrinology and Metabolism Research Center (EMRC). These Specific National Ethical Guidelines for

Biomedical Research consist of: 'Ethical Guidelines for Clinical Trial'(22), 'Ethical Guidelines for Research on Vulnerable'(23), 'Ethical Guidelines for Genetic Research'(24), 'Ethical Guidelines for Gamete and Embryo Research'(25), 'Ethical Guidelines for Transplantation Research'(26), and 'Ethical Guidelines for Research on animals'(9). These guidelines have been confirmed and sent to the universities and research centers for implementation (27).

According to the type and method of activity and the type of used animal, it was necessary that the regulatory process be redefined and re-implemented within the country's Sharia laws and methods. In 2006 one of the authors reviewed the research processes in Iran and found evidence of a need for suitable supervision of laboratory animals (28). It was proposed to develop a system of ethical approval for laboratory animal research. We gathered educational, instrumental and legislation necessities to fulfill the aims of human treatment of laboratory animals, including a comfortable and healthy situation and provision for natural behavior. Four fundamental areas of concern were recognized and has to be paid more attention (9, 29):

- a. Obtaining and transporting laboratory animals
- b. Supervision of researchers and monitoring of facilities
- c. Researchers' and laboratory workers' knowledge of welfare requirements of animals
- d. Performance of invasive procedures

In each part several rules should be prepared for animals to obtain the best outcomes for research programs.

In this study, we used some information on ethical principles of working with laboratory animals to improve our standards. These informations were collected from related internet sites (30-32). Then the best ways of assembling and supervising the works of researchers were redefined by considering Islamic rules about using and treating animals in the Quran and the teachings of the prophet Mohammad and Immaculate Imams and the society acceptance, based on avoiding harm and considering the rights and

responsibilities of their owner and the ethical codes (9) for laboratory animals that are available in our country. The first draft was prepared from gathered information and was reviewed by our teachers and specialists.

#### ***Improving the supervision of research ethics committees***

Right now, there are active ethics committees (EC) in medical universities of Iran which supervise accepted research plans and unless they get their acceptances based on the ethic codes, they may not continue to perform the research. However to improve and promote this supervision based on international guidelines and the need of more attention of those committees to live laboratory animals using in the researches, we suggested that:

A- To include animal welfare and ethics, taking into account Islamic principles and cognizant of world trends for improvement of laboratory animal welfare. The medical universities are responsible for running ethic courses for researchers, supervising and control of eligibility of researchers, laboratories and other workers by filling and observing special check lists. The intensive short courses are of two to three weeks duration and may establish best laboratory practice in animal management which includes anesthesia, euthanasia, pain management, nutrition, laboratory animal diseases and animal husbandry. The committee evaluates research proposals, which are made on a number of different forms. Individual researchers and laboratories are licensed. The universities have separate research committees that appraise the value of individual pieces of work. The ECs have the following objectives when assessing applications for licenses:

1. Islamic doctrine followed in all animal research programs.
2. Considering animal welfare, including a justification for the number and type of used animals. Replacement of existing methods with alternatives, including computer models.
3. Paying enough attention to correct laboratory procedures, anesthesia, euthanasia and surgery, including the issuing of the relevant Iranian licenses for procedures

4. Animal custody free from distress and unnecessary pain, with avoidance of suffering
5. Promotion of the best laboratory practice through education.

B-Committee members for working with laboratory animals:

1. Vice-dean for research in the University;
2. A veterinarian (preferably with extensive knowledge and experience in animal husbandry) ;
3. Two researchers expert in animal research;
4. A researcher with research ethics knowledge but not necessarily animal research experience;
5. A representative of the Iranian Society for the Prevention of Cruelty to Animals (SPCA), preferably with laboratory animals ethics knowledge.

So far, members of the Iranian SPCA have not been included in the Committees by the universities. However, specialists are invited as required. The Committee works by consensus rather than by voting.

Specific EC duties for laboratory animals include:

1. Promote the inception and scrutiny of researcher's application forms. The researcher is responsible for filling in the application form and enclosing all documents about animal ethics licenses to his proposal. After successful evaluation the researcher can get an ethical approval to start the project.
2. Better and more subtle monitoring of animal transportation (from breeding centre to laboratory). The veterinarian member of the committee is responsible for conducting a clinical examination before and after transportation. If the animal is not endemic and the researcher wants to bring them from another country, permission has to obtain from the government's Environmental Organization, which is under presidential control.
3. Scrutiny of animal husbandry in the research centre includes animal cages and laboratory facilities for animals, inspection of animal health and research group eligibility. There is a procedure for three-monthly re-

porting on the husbandry of all animals in laboratories, with different reports depending on the type of animals.

4. The EC supervises all workers in animal laboratories, including students and any other workers, with reports provided every 3 months. The workers have to be eligible and have the necessary documents for their courses. In addition, they have to provide their health certificate and vaccination documents to ethic committee.
5. Every research project shall be monitored exactly by a member of the committee, usually the veterinarian, who is familiar with the ethic codes, animal husbandry, pain management in animals, euthanasia, anesthesia etc.
6. The committee is responsible for complete management of necessary ethic courses, which could be anything from short workshops to university courses. All researchers have to attend special courses related to their animal species and research procedures. Each course has a final exam and after taking a successful exam, the student is issued with a certificate, known by a special ethical code number (the License, issued by the University under the auspices of the Health Ministry). Most of the certificate codes will expire after 3 yr.

## Conclusion

Islam has put emphasis on the ethical norms in medical practice and Muslim scholars have recognized ethics as an essential requirement in the clinical medicine. (33) In the last decade, scientists, ethicists, jurisprudents and lawyers have tried seriously to strengthen medical ethics in Iran, (34) for example: they compiled 'Ethical Guidelines for Research on animals' (9). These activities have been explained in the *Eastern Mediterranean Health Journal* (35).

Islam has recommended humans to provide water and food for animals and respect their rights and safety. Humans should be kind to animals and avoid cruelty to them. They should avoid needless amputation and termination of

their lives (Alhor Alameli M. Vasael Alshieh (In Arabic) *Tehran Maktab aleslamieh*.8: pp.351-353,397.). Therefore, we expect that our researchers consider Islamic rules and have an Islamic commitment to animals' welfare. They should begin their research on animals according to their Islamic believes.

In many other countries, all researchers are trained in institutional programs and are inspected at their research center. In our country, there are expert teachers and professors who are able to train researchers, attend in our research centers and participate in their ethic committees to supervise all Iranian research programs. Based on facilities and potentials in Iran, Medical Universities are main sources in performing and teaching health plans and researches in this field. Therefore, it is suggested that they would be responsible for installation of these guidelines in research plans. It has proved beneficial to develop the responsibility for issuing and monitoring licenses from health ministry to the universities and research centers. We hope that the suggested guideline would be able to improve supervision in working with live laboratory animals based on the Islamic and cultured codes of Iran and also the better usage of the ethic codes which are presented at time.

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