

Necessity of world annual report and country's ranking in commitment to 3Rs; A novel proposition

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Abstract

Scientists worldwide began to recognize the importance of the 3Rs and the welfare of animals used in biomedical research. We suggest that each country's commitment to the 3Rs could be ranked each year and a world annual report in this regard could help policy makers and would stimulate governments for recognizing the importance of the 3Rs. This annual report could be published nationally, regionally and globally in the same format using the same criteria for statistical analysis. Each year the report would be an expert assessment of global commitment to 3Rs, including statistics relating to all countries, with a focus on a specific subject. The main purpose of the report will provide countries, donor agencies, international organizations and others with the information they need to help them make policy and funding decisions regarding animal welfare. The report might offered to a wider audience, from universities, schools, to journalists and the public at large in fact, with a professional or personal interest in animal welfare issues. The World Health Report (since 1995) and the Human Development Report (since 1996) are successful experiments in world ranking and annual reports.

Keywords: World Annual Report, ranking, 3Rs

Introduction

Laboratory animal procedures have made significant contributions to biomedical research in the past, as well as to the safety and efficacy evaluation of chemicals and products of various kinds. Laboratory Animal Science is a multidisciplinary approach which affirms the principles arising from the idea of Russell and Burch that humane science is good quality science and that it is achievable by application of the 3Rs. Reduction, Refinement and Replacement had their origin in a project of the Universities Federation for Animal Welfare (UFAW), and were well established in 1959 with the publication of *The Principles of Humane Experimental Technique*, by W.M.S. Russell and R.L. Burch (Forni, 2007). Russell and Burch defined:

Reduction alternatives as methods for obtaining comparable levels of information from the use of fewer animals in scientific procedures, or for obtaining more information from the same number of animals.

Refinement alternatives as methods which alleviate or minimize potential pain, suffering and distress, and which enhance animal well-being.

Replacement alternatives as methods which permit a given purpose to be achieved without conducting experiments or other scientific procedures on animals. Russell and Burch defined reduction as a means of lowering "the number of animals used to obtain information of a given amount and precision", refinement as any development leading to a "decrease in the incidence or severity of inhumane procedures applied to those animals which have to be used", and replacement as "any scientific method employing non-sentient material which may in the history of animal experimentation replace methods which use conscious living vertebrates" (Smyth, 1978).

Which kind of evaluation is suitable?

Evaluation is methodologically diverse using both qualitative methods and quantitative methods, including case studies, survey research, statistical

analysis, and model building among others. Two classifications of evaluation approached by House (House, 1978) and Stufflebeam (Stufflebeam, 1980) were combined into a manageable number of approaches in terms of their unique and important underlying principles. It is crystal clear that commitment to 3Rs needs a global evaluation. More studies require to clarifying what kind of evaluation is needed for commitment to 3Rs.

Appropriate indexes

A necessary step in producing annual reports and classifying countries on the basis of observed 3Rs principles is to set scientific indexes.

For instance, different international evaluations are available to qualify systems for animal units. The Good Laboratory Practice Guidelines, ISO 9000:2000 (International Organization for Standardization) and AAALAC International (Association for Assessment and Accreditation of Laboratory Animal Care International) are highly recognized. Good laboratory practice (GLP) is a legal requirement for institutions undertaking non-clinical health and environmental studies for the purpose of registering or licensing for use and which have to be 'GLP-compliant'. GLP guidelines are often only relevant for and obtainable by those institutions. ISO is primarily an external standard, which provides a management tool. AAALAC is primarily a peer-reviewed system of accreditation which evaluates the organization and procedures in programs of animal care and use to ensure the appropriate use of animals, safeguard animal well-being (ensuring state-of-the-art housing, management, procedural techniques, etc.) as well as the management of health and safety of staff. It seems that choosing appropriate indexes need more studies and evaluations (Howard, 2004).

It is necessary that certain groups develop countries' indexes observing of 3Rs according to scientific principles. These indexes should be quantifiable and capable of thoroughly evaluating the commitment of countries and scientific organizations to 3Rs principles. It may be necessary that national annual reports precede regional ones. Regional offices of World Health Organization (WHO) play a major role in producing these reports and it seems that each WHO office would study its own special committee on this issue.

Different types of assessments

It seems that annual assessment is the insight into the past, present, and future. An assessment process can lead to clarity and bring required actions into focus. In general, assessment could help: identify strengths and weaknesses, pinpoint interests and match them with strengths, clarify values, specifically what matters, look at the overlap among strengths,

interests, and values to identify corresponding majors or careers. Apparently, a comprehensive report on SWOT (Strengths, Weaknesses, Opportunities and Threats) has to be prepared regarding 3Rs prior to the development of indexes. Each country needs its own SWOT analysis in 3Rs principles.

SWOT Analysis, is a strategic planning tool used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project. It involves specifying the objective of the project and identifying the internal and external factors that are favorable and unfavorable to achieving that objective. The aim of any SWOT analysis is to identify the key internal and external factors that are important to achieving the objective. SWOT analysis groups key pieces of information into two main categories:

The strengths and weaknesses are internal factors. On the other hand, the opportunities and threats presented by the external environment (Hill 1997).

As in different countries there are a lot of internal and external factors it could be recommended that a committee making SWOT analysis in 3Rs principles under supervision of World Health Organization offices.

In conclusion, all countries should have a same legal framework which actively incorporates the 3Rs into all animal-based research, testing and education. There should be formal and informal mechanisms for the education and training of all scientists and officials involved in any way in animal experimentation, to ensure compliance with the spirit and letter of laboratory animal protection legislation, guidelines and regulations. Any proposed experiments should be subjected to prior and effective expert and independent review, for both scientific and animal welfare considerations.

Other experiences in ranking

A lot of experiences could obtain from Human Development Report (HDR). HDR is about much more than the rise or fall of national incomes. It is about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests. Global, regional and national reports are three different kinds of HDR. Featuring the Human Development Index, every report presents agenda-setting data and analysis and calls international attentions to issues and policy options that put people at the center of strategies to meet the challenges of development today - economic, social, political, and cultural-.

Also, a lot of experiences could obtain from World Health Report (WHR) and health indicators. Each year the report combines an expert assessment of global health, including statistics relating to all countries, with a focus on a specific subject. The main

purpose of the report is to provide countries, donor agencies, international organizations and others with the information they need to help them make policy and funding decisions. The report is also offered to a wider audience, from universities, teaching hospitals and schools, to journalists and the public at large, in fact, with a professional or personal interest in international health issues. It seems that World Health Report (since 1995) and the Human Development Report (since 1996) are successful experiments in world ranking and annual reports.

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