



## **Fish, rat or monkey? - The factors that influence the choice of model species in biomedical research**

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The aim of this work was to identify the possible most important factors influencing the choice of a particular animal species to provide for a particular animal model in biomedicine and toxicology. Eight different factors were hypothesised beforehand, and interviews were carried out to confirm, or not, these factors. The factors were: Legislation, Funding, Ethical committees, Public opinion, Scientific question, Tradition in methodologies, Ethical issues, Personal attitudes towards animals.

The interviews involved 24 researchers belonging to different Italian institutions: Istituto Superiore di Sanità (Italian National Institute of Health, Dept of Cell Biology and Neuroscience, Dept of Food and Animal Toxicology, Dept of Pharmacology), Università "Sapienza" di Roma, Istituto Nazionale Tumori Regina Elena (Cancer National Institute Regina Elena), Consiglio Nazionale delle Ricerche (National Council of Research), Research Toxicology Center (RTC) in Pomezia (Roma).

The interviews consisted in four parts. The first part focused on a series of questions on different aspects of the researchers' work with animals, introducing them to the second part, more specifically on the factors influencing their research activities with animals. The third part consisted in asking the interviewed to fill up two forms, aimed at describing their view on the cost/benefit analysis on animal research. Finally, the interviewer was inquiring about the researchers' knowledge of the Directive 2010/63/EU, and the Principle of the "3Rs".

A qualitative analysis of the data has revealed that two of the hypothesised factors were the most influential, that is: Scientific question and Ethical issues. These two factors were significantly mentioned by all of the researchers, regardless of sex, academic experience, working environment and topic of research. The other six factors were also mentioned, but less frequently. In particular, Legislation and the work of Ethical committees appeared to be marginally influential for the choice of a particular species to be used to provide an animal model.

Finally, it appeared that the different factors were interacting among them, therefore it would be correct to say that researchers are influenced in their species choices by a series of interacting aspects.