

Are we going to allow the last nail on the coffin of animal experimentation to be nailed?

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Animal experimentation in pharmacology has been the mainstay of practical pharmacology teaching in India for many decades. Undergraduate students in medicine and pharmacy as well as postgraduate students in pharmacology and pharmacy had to (and still have to) perform experiments, both with live animals and with tissues, in their summative and formative examinations. Autonomic pharmacology was the main area of interest of the senior generation of pharmacology teachers. They conducted many experiments in autonomic pharmacology in dogs and cats and, therefore, had very strong experimental skills using these animals. This tradition was firmly handed down to their students, who were rigorously trained in these techniques. In the 1980s, pharmacologists started showing interest in clinical pharmacology and, with this change, there came less focus on the transmission of the experimental skills to students to conduct the complicated bioassays and live animal experimentation. After the CPCSEA came into existence, there were further problems with procurement of animals, maintenance of animal houses and approval of protocols for experiments using animals. Students became more vocal in voicing their views against animal experimentation, and postgraduates were less inclined to take up research projects for their dissertations that involved animal experimentation. Many academics wrote their views for and against animal experiments for teaching. The increasing consensus was that live and *in vitro* animal experiments for undergraduate medical and pharmacy teaching should

be scrapped and replaced with computer-assisted learning and simulated experiments. However, teachers were still of the view that it was an important aspect of postgraduate training. With the so-called “dog experiment” no longer being performed, many departments turned to using rodents for autonomic pharmacology exercises. However, the experiments have lost their teeth when postgraduates realized that they could pass the practical examination with little or no skill in conducting these experiments. Some departments claimed that they trained their postgraduates to interpret the graphs that had been obtained previously and, in this sense, focussed on the important aspect of experimentation – the interpretation. I do not think many pharmacologists buy into this argument, which is obviously eyewash.

Into this current situation has come a letter addressed to Directors/Principals/Deans of medical colleges and pharmacy colleges from the under secretary in the Ministry of Health and Family Welfare with a subject heading “Guidelines for discontinuation of dissection and animal experimentation and introduction of use of alternatives to animal experimentation.” The letter encloses another letter from the secretary of the Ministry of Environment and Forests, which basically asks medical colleges and pharmacy colleges to follow the guidelines of discontinuation of dissection and animal experimentation that have been formulated by the University Grants Commission (UGC) and circulated to colleges teaching Zoology and other Life Sciences. This rather confusing scenario has been discussed in e-groups by academics who have been taken by surprise. To throw some light into this scenario, it must be clarified that the UGC circular was meant for colleges with Life Sciences and Zoology, not medicine and pharmacy disciplines. However, the Ministry of Environment and Forests has seized this opportunity to request the Ministry of Health and Family Welfare to direct medical and pharmacy colleges to follow the UGC guidelines. It is unfortunate that

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the Ministry of Health and Family Welfare has forwarded this letter for “necessary action” to all colleges. The government has neither sought any discussion with academics nor checked to see if these guidelines can be applied to these two disciplines. Given the mild wording of the letter, it is up to us to mount a strong resistance toward applying these guidelines to all disciplines.

What skills and attitudes are imparted to trainees who perform animal experiments? Apart from the handling/dissection/preparation of drug solutions and other skills, which depend on the type of experiment, animal experimentation prepares a trainee to plan, observe, record and interpret. It also inculcates in them a sense of scientific enquiry, the importance of team work, care of animals, calibration and maintenance of equipment and other miscellaneous yet important attitudes like maintaining a clean workplace and cordial relationship with technicians and animal house keepers. They will learn to make sure that body parts and dead animals are properly disposed after the end of the experiment. Most of all, they will learn to be accountable for the success or failure of the experiment. Therefore, it becomes obvious that all these cannot be “taught” by alternatives or CAL. One may argue that if a postgraduate joins the pharmaceutical industry, he may never need to conduct an animal experiment again or plan one. There is some truth in this, but it must be kept in mind that preclinical drug testing is almost entirely done in animals. The pharmaceutical companies need to submit dossiers for approval, and often use the results of animal studies to convince key opinion leaders to use the drugs. Having an insight into the animal experiments will certainly put these candidates ahead of others. It may be argued that there is no need to teach writing in schools or multiplication tables because of the wide use of computers and calculators. Perhaps the only reason we still teach children these skills is because these also teach the children to concentrate, use their minds and improve dexterity. In a similar fashion, animal experiments also teach patience, the need for precision (in weighing drugs) and attention to detail. It becomes clear that there is a basic amount of knowledge, skills and attitudes we need to impart so that postgraduates have a broader basket of skills that can be flaunted when applying for jobs. By narrowing the basic skills that are taught to them, they will end up in a disadvantage.

If we support the argument that animal experiments should be discontinued as they serve no purpose anymore, what

alternatives are we left with? Humans will be used for all dissertation purposes and to learn clinical expertise. Is this more ethical than using animals or just less of a hassle? In many medical colleges, there is no real collaboration and rapport between the clinical departments and the departments of pharmacology. As a result, human experimentation becomes very difficult. Lack of an erudite and informed ethics committee (EC) is another problem, with ECs rejecting protocols not on the grounds of ethical concerns but because of petty jealousies, fear of wrong decisions and lack of ethical insight. Therefore, guides and postgraduates depend on conducting animal experiments to fulfil the curricular requirement of the dissertation. It is the same in the pharmacy colleges, where human experimentation becomes difficult, although not impossible. Therefore, animal experimentation still remains valid. However, there are voices that would like to take the easy way out as less and less medical faculty have the necessary confidence to teach animal experimentation to postgraduates, leave alone evaluating students on their performance.

Let us forget the argument that the food industry should be made to toe the line for the killing of millions of birds, animals and fish of every type and species each day to satisfy the palates of humans the world over and in India too. The very fact that it is the medical and pharmacy colleges that are being called to stop using animals for experimentation is proof that we are the obvious “soft targets” who are expected to give in without a fight. Any hint of implementing the Prevention of Cruelty to Animals act on the food industry or on people sacrificing animals for religious reasons will be met with stiff resistance and serious repercussions. Therefore, we need to understand the strategy of the government and take a remedial action in the form of protesting strongly, firmly and loudly. It is unconceivable that the Ministry of Environment and Forests should ask the medical and pharmacy councils to toe the line on an issue that deals with the curriculum of these disciplines. However, the track record of pharmacologists in protecting the interests of the subject is not encouraging and, unless a concerted effort is made, the decision will be taken without hearing our views. The last nail on the coffin of animal experiments would have been nailed.

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