Ethics in pharmaceutical products promotion

Recently the Organization of Pharmaceutical Producers of India (OPPI), which is a premier organization of pharmaceutical manufacturers in India, has revised its model code on standards of promotion activity to medical practitioners. This model code aims to restrict pharmaceutical companies from providing “freebies” to medical practitioners so as to reduce influence on prescribing drugs of a particular company. This is based on the International Federation of Pharmaceutical Manufacturers Associations (IFPMA) code which is considered as a model code. Section 2.2 of General Principles of OPPI code states that “No financial benefit or benefit-in-kind (including grants, scholarships, subsidies, support, consulting contracts or educational or practice-related items) may be provided or offered to a healthcare professional in exchange for prescribing, recommending, purchasing, supplying or administering products or for a commitment to continue to do so.” This clearly states the refined position of OPPI code which is based on a noble intention of having a rationale for prescribing a product of a particular company by the medical professional without any influence so as to benefit the patient. It gives more freedom to medical professionals to choose the treatment option for patients on a case by case basis if they are not influenced by pharmaceutical companies. But it is a well-known fact that there are many companies trying to influence the prescribing habit of doctors with their kind gesture towards the practitioner, which ultimately tempts other companies also to lure the medical practitioners by providing freebies, apart from scientific information including literature, brochure and other scientific inputs. The condition of the Indian pharma industry is also pathetic with more than 20,000 manufacturing units that sell more than 70,000 brands. It is virtually impossible for any medical practitioner or even a common man to remember the whopping number of brand names. Every company or manufacturer wants to survive in this cut-throat competition and thus direct their efforts towards these unhealthy practices. Though the OPPI code has tried to amend some of these unethical practices in tune with IFPMA code, which is welcomed by trade associations, some lacunae exist. What about companies that are not members of OPPI? What if companies continue to promote their product in an unscientific way? Is there any mechanism by which unscientific promotion by companies is restricted? Besides, the companies that are not members of OPPI may not follow the code and can circumvent the provisions, still continue to influence the medical practitioners. The Drugs and Magic Remedies (Objectionable Advertisements) Act in India states only the conditions for which a drug cannot be directly advertised. At present there are no provisions to monitor how companies, that are not members of OPPI, adhere to standard practices. While the new code by OPPI may not be music to the ears of medical practitioners since many of them would be devoid of the favours accorded to them by certain pharmaceutical companies. At the same time it is required that the prescription generated at the hands of the practitioner takes care of the patient’s clinical condition and, more importantly, the economic status of the patient. Let the medical practitioner be an unbiased or an impartial judge of what is required and for which patient. What is needed is a concrete, directed and focused effort by all players of the pharmaceutical industry and other stakeholders as well, in order to regulate the promotional activities of pharmaceutical companies to medical practitioners. As OPPI has modelled its code on the IFPMA code, all trade associations of pharmaceutical industry, government, NGOs and common men should join hands together to curtail the practice of influencing medical practitioners. Governments can frame and enact laws and legislations that would take care of marketing practices and create a monitoring authority that would monitor the promotional activities of pharmaceutical companies in India.


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Frontier research and the undergraduate syllabus

A phenomenal rise in the number of journals and publications dealing with research papers from narrower and highly specialized fields that have gone up manifold in last couple of decades, is just mind-boggling. We are now having newer scientific societies and conferences discussing focused topics from different sub-fields, with the groups also getting further subdivided quickly. The worldwide web, and other fast and effective but easy and inexpensive modes of communication have helped like-minded people to come closer.

As a consequence, a section of scientists and researchers with a focused vision have begun to feel that their fields of work are so important that the students of the concerned subject should know about it as early as possible. They expect that students should be aware of the most modern developments of a subject at a lower level, say, at the undergraduate (UG) level, or may be even at the plus-two level. This is a matter of concern.

It goes without saying that in science the topics that students are exposed to at an elementary level are, in general, considered to be more fundamental; they may be more important in building up the basic concepts of a subject. We have all learnt the laws of reflections or Newton’s laws of motion at school, no matter
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whether in the long run we pursued science or any other stream. This essentially shows how fundamental these principles are.

However, all the modern fields of scientific research are not equally fundamental in nature, though scientists or academicians whose fields of research are quite naturally close to their hearts often refuse to take cognizance of this. So much so that some of them expect nanotechnology should be included in the UG curriculum of physics. Some expect that VLSI technology should be made known to the UG students of physics or electronics in all detail while others feel that UG physics students must know something about biological systems, where the laws of physics can be applied. Some also expect that all the intricacies of a solar cell should be part of the plus-two syllabus. It seems as though scientists have adopted the slogan ‘catch them young’ and are trying hard to catch the attention of young students by an impressive presentation of the relevant topics from the respective fields at a more elementary level.

All these are giving rise to a phenomenon that is often termed as the concept of ‘downloading’ from the syllabus-framing point of view. What happens in the process? Classical experiments in physics for understanding some important and basic phenomena are replaced by experiments based on electronics, microprocessors or computers. We train students in the use of sophisticated instruments, while the involved physics in the studied phenomenon takes a backseat. Probably detailed studies of different aspects of Newton’s laws of motion may have to provide space for ‘introduction to particle physics’ or ‘special theory of relativity’ at the higher secondary level. Unfortunately, the capability or the interest of the majority of students of a particular level is not taken into consideration while framing a syllabus. Focus remains only on students who may pursue the subject at a higher level, leaving out other possible vocations for the students of physics. As some UG students could become future teachers, the UG syllabus should cater to them as well.

As such, there is a dearth of good school teachers. UG teaching is also not that attractive. If we expect to have more committed science teachers in schools and colleges, who will be able to ignite young minds, we have to address the problem of overburdening the UG syllabus. More stress should be given to the basic concepts and not to mere exposition to some frontier topics.

The problem, it appears, is bothering all teachers of science, not only of physics, teaching at the plus two as well as at the UG level. However, the solution possibly lies with the people involved in active research and with those responsible for framing the plus-two level and UG syllabi. Different stakeholders, viz. the plus-two level UG teachers and PG teachers, and scientists and researchers must have a common platform to talk about these issues. Otherwise, the concept of downloading will make UG students equipped more with jargons and less with the understanding of the basic concepts of the concerned subjects.


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Chikungunya epidemics due to Central African genotype in Andhra Pradesh

Chikungunya virus is an Arthropodborne virus (genus *Alphavirus*, family Togaviridae) transmitted by *Aedes aegypti* and *A. albopictus* mosquitoes. Although the first recorded epidemic of chikungunya in India was in 1963 in Kolkata, existence of chikungunya virus antibodies in human sera collected between 1954 and 1956 suggests that the disease was prevalent in India prior to 1963. Many epidemics were recorded in Chennai, Vellore, Kakinada, Nagpur and Bari.

Andhra Pradesh (AP) was the first state to report chikungunya virus during the epidemic in December 2005, and was among the worst affected. Phylogenetic analysis of 330 bp E1 region of chikungunya virus of AP isolate (accession no. DQ888620) showed that it was closely related to the Central African isolates from Reunion Islands and also from the Democratic Republic of Congo (Sai Gopal *et al.*, unpublished data). Several interesting observations were made from the current epidemic. Compared to early outbreaks (which were confined to cities), the current epidemic was predominantly rural. Chikungunya virus isolated between 1963 and 1973 belonged to Asian genotype, whereas the current epidemic isolates of Karnataka, Maharashtra, AP and the Yawat isolate (2000) belonged to Central/East African genotype.

How did chikungunya virus emerge after such a long gap was a question of serious concern? Yawat isolate was earlier reported as Asian genotype, but NS4-based phylogenetic analysis showed Yawat isolate as Central/East African genotype. Grouping of Yawat isolate with Central/East African genotype suggests that this genotype had been introduced more than five years before the current outbreak. Absence of herd immunity in the affected population can also be considered as one of the reasons for such a large outbreak. Chikungunya virus might have been maintained in nature at a low level and cases were misdiagnosed as dengue due to similar symptoms. There are reports of simultaneous co-infection of chikungunya and dengue viruses.

The work done by Schuffenecker *et al.* on chikungunya virus and its dependence on cholesterol for replication has developed interest among the scientific community. Schuffenecker *et al.* have observed a specific change at position 226 of the E1 protein (membrane fusion glycoprotein). The virus normally needs cholesterol to infect the cells of human and mosquitoes, and mosquitoes often do...